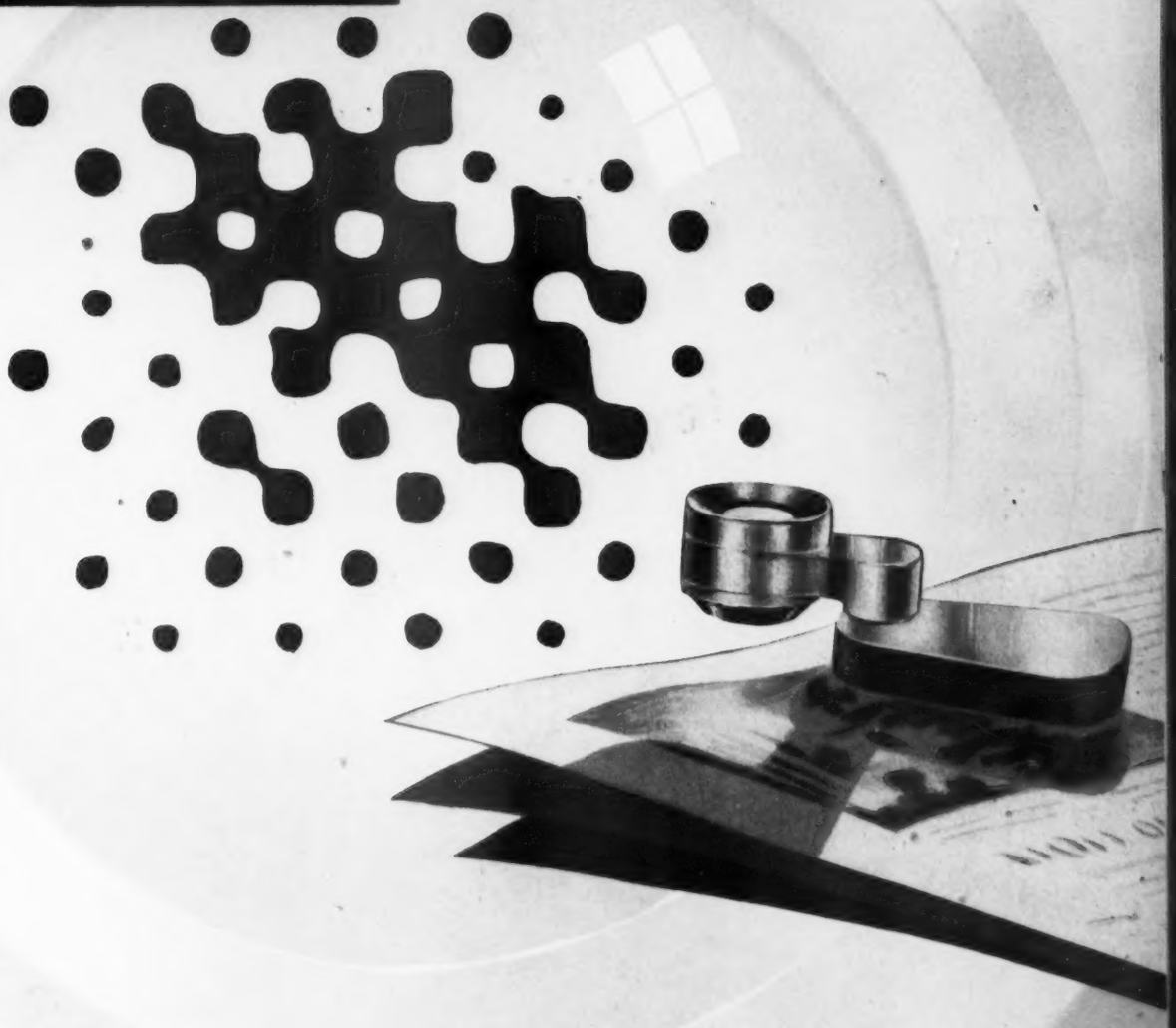
JANUARY 1954

PRINTING EQUIPMENT Engineer



PLEASE ROUTE THIS COPY TO	
Manager	Pressroom Foreman
Production Mgr.	Bindery Foreman
Plant Supt.	Mailing Foreman
Platemaking Foreman	Maintenance Supt.
Composing Foreman	Purchasing Agt.
For filing, please return to	

AN INDUSTRY-WIDE
TECHNICAL PUBLICATION

FROM THE DESK OF
Alfred Archer Asst. Sales Mgr.

SUBJECT: QUADDER ADVERTISING

ATTENTION: EMIL BENDOW, S.M.

Because the Star Quadder is the only Quadder now available with Hydraulic Actuation, I think we should feature this point in our next advertisement. I'd suggest emphasizing to the trade that we were first in the outboard quadder field and that our time-proven Hydraulic Actuation is another Star first.

Of course, other advantages should be covered, such as mechanical simplicity and independence from machine action. The important point, though, is our long practical experience and customer satisfaction with the Star Quadder over the years.

Al

Tell the advertising agency to go ahead, giving special emphasis to the suggestions made here. This is important to the potential purchaser!

E.B.

Precision TRADE ★ MARK Parts

LINOTYPE PARTS CO. INC. *factory and main office:* South Hackensack, N. J.
BRANCHES: KANSAS CITY 6, MO. • CHICAGO • MINNEAPOLIS • DENVER • LOS ANGELES • BOSTON • CANADA: SEARS LTD.

for better, faster, safer curved plate routing

THE STA-HI MASTER ROUTER is actually a self-contained "router room", completely enclosed for the stereotyper's safety and clean, efficient operation . . . Its high speed head, feather touch controls and daylight illumination make possible fast, accurate routing . . . Exclusive features of the Master Router are its Automatic Plate Stripper, Double Page Matcher and Air Jet Chip Remover . . . More than 200 machines are now in daily operation . . . Write today for complete details!

STA-HI CORPORATION • WHITTIER • CALIFORNIA

STA-HI®

...IS YOUR BEST BUY

Vandercook Has Moved

to their new plant . . . located at 3601 West Touhy Ave., Chicago 45, Illinois

Phone — ROgers park 1-2100

We are now in our new home—the modern building pictured above—where Vandercook equipment will be manufactured and our general offices, research laboratory and demonstration room are located.

We hope you will visit us. Our plant is located only 25 minutes by taxicab north of Chicago's downtown district, and we are sure you will find every minute of your visit interesting as well as educational.

VANDERCOOK & SONS, INC.

VANDERCOOK PRE-PRESS SYSTEM

PRE-MAKEREADY SPECIALISTS

General Offices, Research Laboratory, Demonstration Room & Factory
3601 W. Touhy Ave., Chicago 45, Ill. Phone: ROgers Park 1-2100
Eastern Office & Demonstration Room
323 E. 44th St., New York 17, N.Y. Phone: MUrray Hill 4-4197
Western Office
3156 Wilshire Blvd., Los Angeles 5, Calif. Phone: DUnkirk 8-9931

Action Photo

No Reader Likes a Poorly Folded Newspaper!

SCOTT "Extra Hi-speed" Folders assure neatly folded newspapers. The only folder built with a 3 to 2 ratio, i.e., a three-surface folding cylinder with patented expansion bands and co-acting two-surface cutting cylinders. "Straight" or "collect", book form or sectional, makes possible the successful handling of all newspapers from a 4-page tabloid to a 96-page full size newspaper. No other folder has this wide range capacity.

SCOTT Folders start with the units without lost motion to break webs. The number of pages being printed does not restrict the speed of the folders. When you use a SCOTT 3 to 2 ratio folder, the inside section of a collated newspaper does not protrude beyond the outside section. All other folders are 2 to 1 ratio and cut the outside section shorter, causing poorly folded newspapers.

The features of SCOTT Folders assure the publishers, equipped with SCOTT Presses, the greatest performance in delivering a well printed and neatly folded newspaper.

Modernizing . . . Expanding . . . Planning a new plant . . . Consult SCOTT on the fastest, most versatile newspaper press equipment ever developed. We invite your inquiries.

Buy with Confidence . . . Buy SCOTT

15-1-14

WALTER SCOTT & CO. INC.

PLAINFIELD, NEW JERSEY

WOOD

Electrotab Autopaster

Two button control of fully automatic web splicing cycle

Drive Mechanism lowered to new roll which it accelerates to correct surface speed

and

Brush Arm lowered to operative position.

Splice made by attaching new roll to running web

and

Old web severed from expiring butt

and

Drive Mechanism & Brush Arm retracted to non-operative position

and

Reel rotated to running position.

Send for illustrated literature

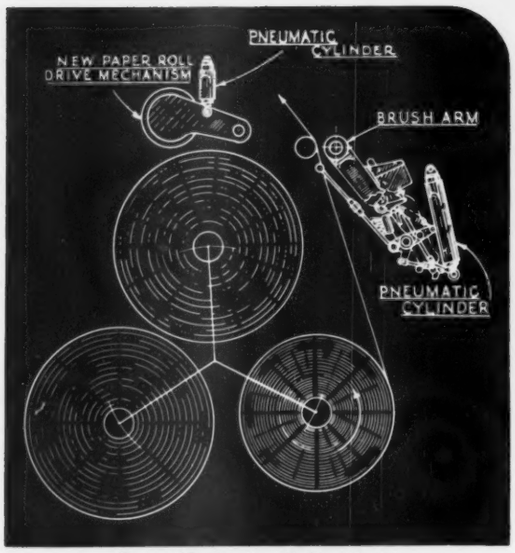
IF IT'S Wood IT'S GOOD

WOOD NEWSPAPER MACHINERY CORPORATION

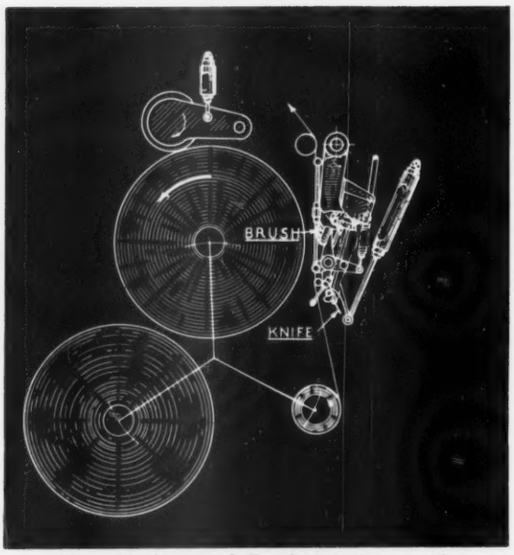
PLAINFIELD, NEW JERSEY

SALES OFFICE: 501 FIFTH AVENUE, NEW YORK 17

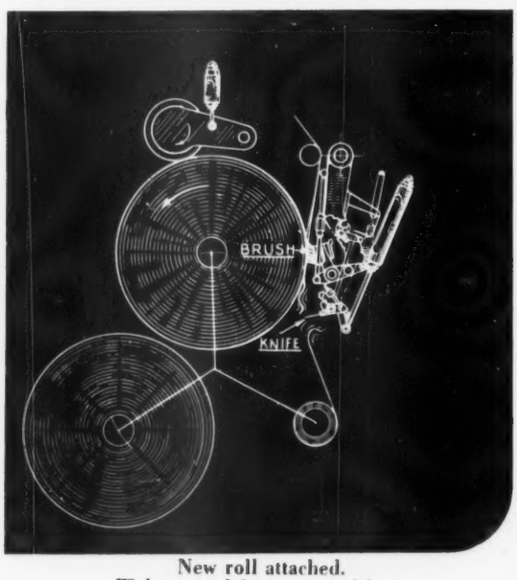
See a working model of the Electrotab Autopaster at Great Lakes Newspaper Mechanical Conference, Jan. 10-12, Booths 23-24 Claypool Hotel, Indianapolis



Drive Mechanism & Brush Arm in non-operative position.



Drive Mechanism & Brush Arm in operative position preparatory to splicing and severing.



New roll attached.
Web severed from expired butt.

PRINTING EQUIPMENT *Engineer*

January 1954

An industry-wide technical magazine published especially for management, production and mechanical executives responsible for printing production and the specification of equipment and supplies used in the commercial, magazine, private plant and daily newspaper fields.

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Volume 84 **Number 4**

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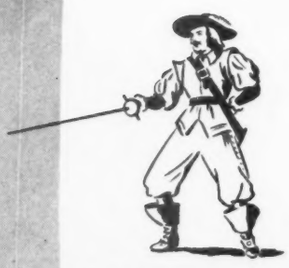
Member Circulation CCA Controlled Audit

Acceptance under section 34.64 P. L. and R., authorized.

Printed in U. S. A.

AN INDUSTRY-WIDE TECHNICAL MAGAZINE

high-speed, high-volume printing and converting are simplified

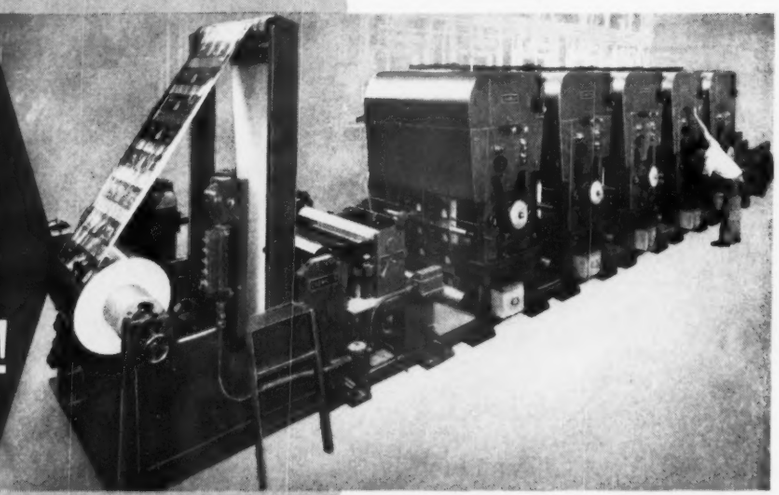


. . . with this **NEW** Rotogravure Press with Rewind Delivery

the secret is

CENTRALIZED CONTROL!

All press equipment can be controlled from each color or control station. All controls are on the operator's side of the press. All running controls are FULLY AUTOMATIC



AUTOMATIC COMPREHENSIVE CONSTANT-TENSION CONTROL . . . from roll stand to delivery, hydraulically-actuated mechanisms maintain constant, *balanced* tension on all points of the continuous web.

AUTOMATIC ELECTRONIC RUNNING-REGISTER CONTROL OR MANUAL PUSH-BUTTON CONTROL . . . maintains precision printing register at all production speeds.

AUTOMATIC MAINTENANCE OF PRINTING PRESSURE – Hydraulic impression cylinders maintain, and return to, exact pre-set printing pressure.

The *only* adjustment required to operate press over full printing range is the Vernier setting of the variable speed pull tension control which:

1. ***Stabilizes web travel throughout printing section.***
2. ***Permits rewinding delivered rolls of ANY DESIRED DENSITY!***

Models	14"*	20"*	26"	36"	44"
Max. Print. Width	14"	20"	27"	36"	44"
Max. Web Width	15"	21"	28"	37"	45"
Min. Cyl. Circum.	9"	13"	17"	17"	17"
Max. Cyl. Circum.	18"	26"	34"	34"	34"

Production speed (with rewound roll delivery) on:	Speeds up to
Cellophane	500 feet per minute
Glassine, sulphite, light paper, paper backed foil	600 feet per minute
Kraft and heavy paper and board	800 feet per minute

*14" and 20" models maintain printing pressure by electric push button control.

This precision-built *complete* rotogravure unit prints *most* stocks—from light films to heavy, rough papers and board—with impression pressures from 0 ("kiss") contact to 400 lb. per lineal inch. Precision-built for sensitive, delicate work, yet able to withstand heavy impressions, this unit will give more-than-satisfactory service for years with practically no maintenance. It will maintain accurate register and fidelity of reproduction—even with heaviest production schedules.

FULLY-AUTOMATIC RUNNING CONTROLS *PLUS* ALL THESE QUALITY FEATURES:

- Heavy duty unit drives maintain register with minimum control.
- Full retention of all tonal qualities in printing cylinder insured by full-range doctor blade adjustment, sensitive hydraulic impression adjustment, and uniform inking in the first quadrant of printing cylinder with secondary inking.
- Individual color unit dryers provide maximum area of web under dryers with minimum web leads.
- All printing units readily converted to back printing without turning bars.
- Equipment explosion-proof wired.

Write today for catalog of Champlain press equipment and full information on NEW Champlain Rotogravure Presses with Rewind Delivery. **Champlain Company, Inc., 88 Llewellyn Avenue, Bloomfield, N. J. Chicago office: 520 N. Michigan Avenue, Chicago 11, Ill.** 3308

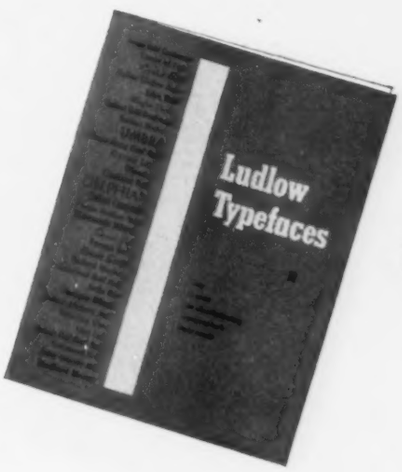
Champlain

Champlain manufactures a complete line of roll-fed rotogravure, flexographic, letter press, cutting and creasing and allied equipment for packaging and specialty printing.

Tempo Bold Condensed
Garamond Light
Coronet Bold
Bodoni Modern Italic
Mayfair Cursive
Radiant Bold Condensed
Bodoni Modern
UMBRA
Mandate
Radiant Bold
DELPHIAN
Bodoni Campanile
Tempo Medium Italic
Karnak Black
Coronet Light
Tempo Bold
Hauser Script
Radiant Medium
Garamond Bold Italic
Stellar Bold
Tempo Black
Eden Light
Bodoni Campanile Italic
Radiant Heavy

Ludlow Typefaces

One thing that makes the Ludlow so versatile and so useful is the variety of typefaces available in Ludlow matrices. There are many Ludlow typefaces of distinctive modern design, as well as those traditional typefaces which have proved their worth and will always be with us. Ludlow typefaces include numerous attractive scripts and italics, which are most popular among advertisers and users of good printing. There is a Ludlow typeface for practically any requirement of good typography and attention value.

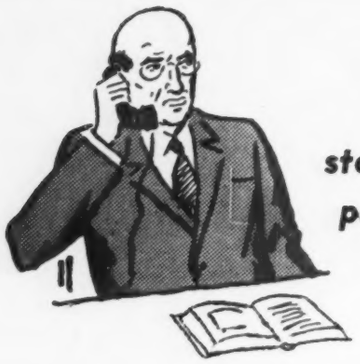


Send for a copy of this new Ludlow typeface folder

The new folder illustrated above suggests many of the typefaces to be had in Ludlow matrices. The inside pages show simple but effective color schemes and typographic arrangements that could be duplicated in your own plant with a Ludlow installation.

Many of our good users consider Ludlow typefaces valuable assets in their service to customers. Numerous plants depend entirely upon the Ludlow for their display and miscellaneous composition, and operate most profitably with Ludlow facilities for general display, lining typefaces, ruleform, etc. Their satisfactory experience may be yours also.

Ludlow Typograph Company · **2032 Clybourn Avenue, Chicago 14, Illinois**



When the store manager's paper was late

—he jumped to the conclusion that everybody's paper was late and that carefully planned advertising would get only hasty attention. Of course he complained.

Throughout a paper's territory there are hundreds of eager watchers to whom prompt delivery of papers is a matter of dollar income. Publishing concerns that set due weight on regularity often prefer dependable Certified Mats.

For dependable stereotyping, rely on Certified Mats

Certified DRY MATS

CERTIFIED DRY MAT CORPORATION, 9 Rockefeller Plaza, Dept. M, New York 20, N. Y.

Announcing EASTERN'S New 1954 Catalogue...

● When you buy supplies or equipment for stereo, engraving, composing or pressroom, you'll always find exactly what you want in this informative, 52 page illustrated catalog. It outlines supplies and equipment for stereotype, engraving, composing and pressroom. It simplifies your buying . . . helps you save time, and money too!

Write for your 1954 Eastern Catalog today.

EASTERN FOR SERVICE AND ECONOMY!

ENS
Eastern Newspaper Supply, Inc.
9603 NORTHERN BLVD. · CORONA 68, N. Y.

Equipment and Supplies

If you wish additional information concerning equipment, supplies and/or technical literature, please make your request to PRINTING EQUIPMENT Engineer, 1276 West Third St., Cleveland 13, O.

Superfast Powerlith Film

Powerlith, a litho film, has been announced by the Chemco Photo-products Co. Sponsor states it is the fastest exposing orthochromatic litho film available. Density and contrast are said to be advanced to the maximum, and complete development latitude fully maintained. According to sponsor, Powerlith's speed has been obtained without excessive tendency to block up in the highlights. Stops may be used which require less flashing for the shadows in proportion to the detail exposure. The result is a good balance between highlight, middletone and shadow with improved separation of tones. Dot opacity has not been sacrificed and its density is well suited for dot etching. The film is coated on cellulose triacetate, commonly known as low shrink base, which minimizes register problems. Powerlith is supplied in light trap containers, and will be available in regular or thin base in both sheet and roll film. Further information is available by mentioning PEE No. 1 in your request.

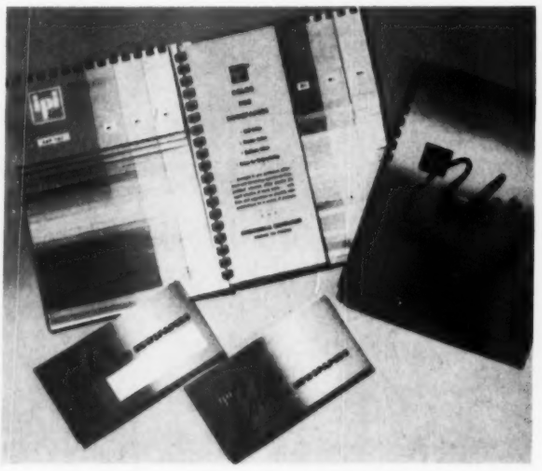
Stereo Plate Caster

Incorporated in the MAN Semi-automatic Tilting Stereotype Plate Caster for curved newspaper and magazine plates, states Parsons & Whittemore, Inc., is the same principle of pressure casting as the larger MAN Pneumatic Plate Casters. It has been designed for smaller newspapers in which up to about 40 plates per edition are cast, for casting ¼-inch magazine and book plates, and for back up electrotype shells. From one to two plates per minute may be cast.

Sponsor states the gas or electrically-heated metal pot mounted at the top of the machine contains 1430 lbs. of metal. No tail piece is cast to the plate. It is

(*Continued on Page 10*)

IPI Color Specimen Books — Interchemical Corporation, Printing Ink Div., has available two color specimen books for newspaper publishers, advertisers and advertising agencies. Called *Color for Newspapers*, the books are offered in both de luxe and pocket size editions. The books also provide a guide for color use, giving suggested combinations of both harmonious and contrasting colors, color combinations most suitable with black and colors for holidays and seasons of the year. Both sizes of these specimen books show R.O.P. colors for newspapers in full strength and tints. According to IPI, these are hand picked colors which reflect the preference of most color advertisers. Copies may be obtained by requesting PEE No. 13.



In each and every bearing, we match rollers to almost microscopic limits

NOT satisfied to finish rollers to extremely close tolerances, Timken Company engineers designed the special machines you see pictured below. They sort rollers into even more precise sub-sizes so we can match the rollers in *each* and *every* bearing to almost microscopic limits. Result: each roller carries the same load, assuring quieter operation, longer life.

This is typical of the many extra steps we take to give you more for your money than any other bearing manufacturer. In fact, only with Timken® bearings do you get *all* these advantages: advanced design, precision manufacture, rigid quality control, special analysis Timken steels. The end result is that every Timken bearing insures longer life, reduces friction and cuts maintenance costs to a minimum.

Whether you're buying or building machinery, specify Timken bearings. Or if you're replacing bearings, insist on Timken tapered roller bearings. The Timken Roller Bearing Company, Canton 6, Ohio. Canadian plant: St. Thomas, Ontario. Cable address: "TIMROSCO".

This symbol on a product means its bearings are the best.

TIMKEN

TRADE-MARK REG. U. S. PAT. OFF.

TAPERED ROLLER BEARINGS

NOT JUST A BALL NOT JUST A ROLLER THE TIMKEN TAPERED ROLLER

BEARING TAKES RADIAL AND THRUST LOADS OR ANY COMBINATION

Equipment & Supplies

(Continued from Page 8)

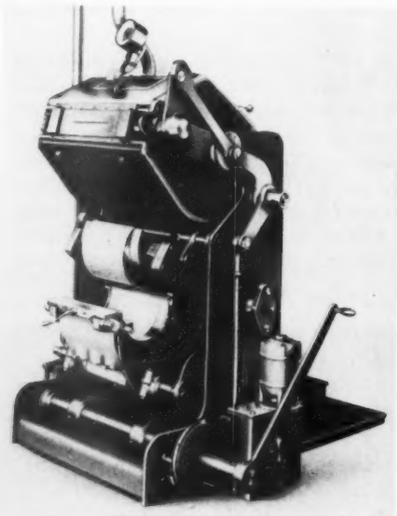
also stated the sharp edges of the non-shaved plates may be removed in a few minutes. The core and shell of the MAN casting box are made of special alloys. Maker states plates are cast within a thickness tolerance of 0.0025 in. plus or minus; to this tolerance however, is added variations in molded thickness of the mats which can be depended upon to be supplied within 0.00 in. or 0.002 in. plus or minus of thickness specification. If greater accuracy in plate thickness is demanded, it is stated, a separate plate finishing machine can be supplied.

The MAN-Winkler system of gravity casting, it is explained, forces metal into the horizontal mold parallel with the ribs under the static pressure of a head of approx. 20 in. of stereotype metal which remains effective until the plate has solidified. This pressure expels air from the plate area through shallow vents in the foot stick and side rings of the casting box.

The molded mat is set once in the curved casting chamber for any number of casts. Optionally, for color register, the casting box can be supplied with a registering device which prevents shifting of the mat.

If required, the caster can be supplied with interchangeable rings for casting rings for casting plates of a varying number of columns. These rings can be changed quickly.

Operation of the casting machine is as follows: The mat is inserted and clamped. The box is closed when the operator pulls the hand lever forward. The action of pulling the lever forward to close the box also tilts the metal pot forward to casting position. As soon as the casting box is closed tightly against the metal pot mouthpiece, a valve opens automatically to permit to flow into the casting box orifice. After a timed interval, the valve closes automatically and severs the freshly cast plate from the metal supply. The operator then opens the box and simultaneously tilts the metal pot back to normal position. The opening of the casting box exposes the plate hanging on the top edge of the core from which position the plate may now be removed.



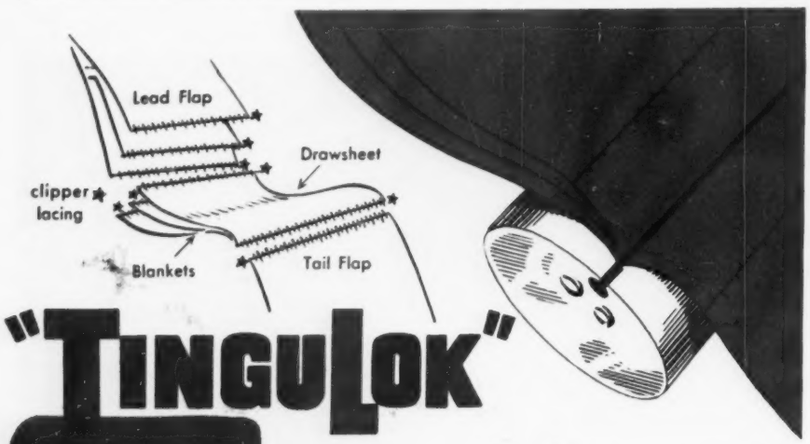
View of MAN Semi-automatic Tilting Stereotype Plate Caster — Machine is shown with curved plate casting box in open position. The freshly cast plate is hanging on the edge of the box core and the mat is in position in the box back. Metal may be melted either by gas or electricity. Automatic metal temperature control keeps fluctuations within plus or minus 10 deg. F. The automatic standby heating regulates temperature between editions.

The MAN Tilting Casting Box consists essentially of a casting box, metal pot with cylindrical valve, side frame, base plate, toggle and hand lever for closing and opening the box and tilting the pot, and an electric drive for opening and closing the metal pouring valve.

The casting rings are hinged at the back of the shell. For wiping the shell and inserting the matrix, the front ends of the rings are lifted and are automatically held clear. Core and shell of the casting box are water cooled. The water cooling valve operates automatically.

Further specifications are enumerated by sponsor as follows: Motor, ½ h.p.; electric heating capacity, 13 k.w.; cooling water per plate, 5¼ gal.; overall width, 70 in.; overall depth (with rear steps), 77 in.; overall height, 110 in.; approx. net weight, 3420 lbs. If you would like complete information please mention PEE No. 7 in your request.

(Continued on Page 14)



"TINGULOK"

the most economical and simplest system of blanketing rotary newspaper presses

① Insert Wire

② Reel in Flaps

③ They're On!

Tingulok Flaps and Blankets are made up complete with the "Clipper Belt Lacing" attachments. Wire or call collect to our nearest office for a demonstration.

Blankets and Drawsheets for any condition

TINGUE, BROWN & CO.

723 E. Washington Blvd.
Los Angeles 21, Calif. PRospect 6023

507 Bishop Street, N.W.
Atlanta, Georgia ATwood 3864

1227 Wabash Avenue
Chicago 5, Illinois HArrison 7-0083

1765 Carter Avenue
New York 57, N. Y. CYpress 9-8800

CANADIAN SALES AGENTS ROSS WHITEHEAD & CO. LTD. MONTREAL CAN.

again . . . Preferred!

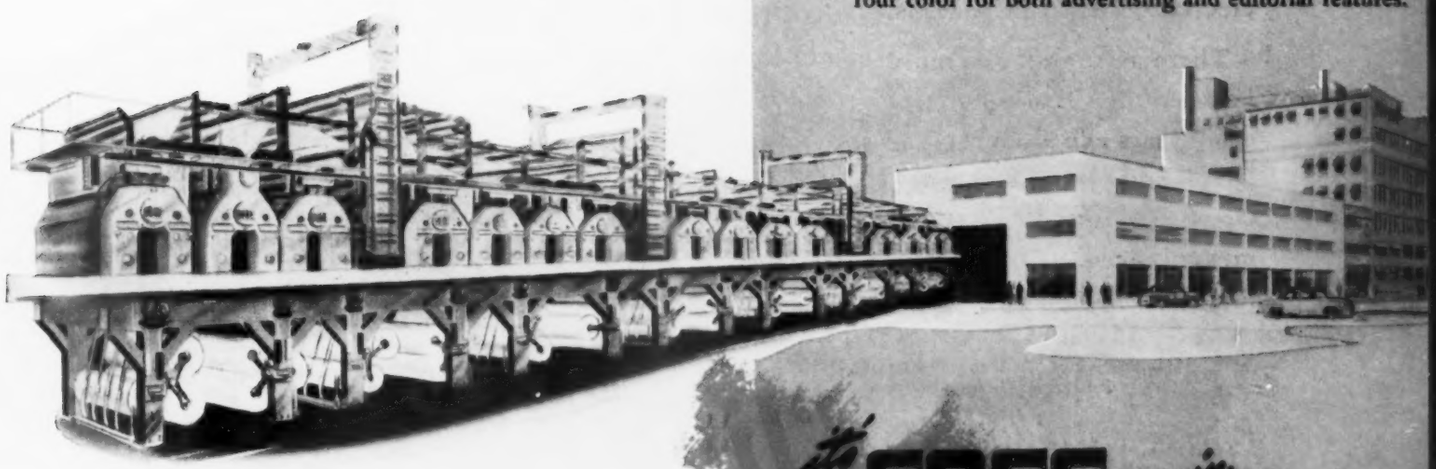
"Ohio's Greatest Home Newspaper"

THE COLUMBUS DISPATCH BUYS 18 HEADLINER UNITS WITH GOSS REELS-TENSIONS-PASTERS

Columbus is not only the bustling capital of a thriving state renowned for its diversity of industry and prosperous agriculture. It is the retail trading center for 12 densely populated counties.

In order to serve advertisers and readers better, THE COLUMBUS DISPATCH has ordered 18 Headliner units, with three folders, and Goss Reels-Tensions-Pasters. These new Goss presses will be erected in a three-story addition to THE DISPATCH'S present building.

THE COLUMBUS DISPATCH — with 160,979 daily and 224,974 Sunday circulation — printed 28,858,461 lines of advertising last year. With installation of the Headliners®, it will have ROP four color for both advertising and editorial features.



it's **GOSS** *again*

THE GOSS PRINTING PRESS COMPANY
5601 West 31st Street
Chicago 50, Illinois

World's largest manufacturer of newspaper, magazine and rotogravure presses

Continuous research and development keep it the leader in its field . . .

Cline-Westinghouse

Electrical Equipment

Specialists in originating, designing and manufacturing modern control equipment for presses and other printing machinery; Cline engineers have kept abreast with the many scientific achievements which have been responsible for important improvements in electrical control methods.

There is a vast difference between the Cline equipment of 40 years ago and the Cline Drives and Controls of today. Good as it was Cline equipment of early days can't match that of today, *or tomorrow,* for finer sensitivity, quicker response and greater balance between the variables being controlled.

It is certain that the Ultimate will be startling and revolutionary, compared to present day accepted standards.

But Cline, as always, is continually adapting and applying modern techniques for the control of printing machinery . . . so, in the years to come, publishers and printers can continue to *Look to Cline for the Best!*

For Newspaper Plants

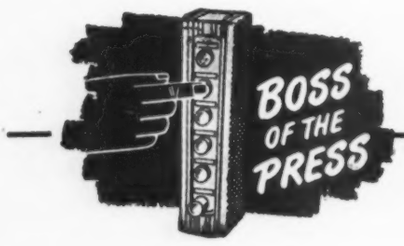
Unit Press Drives . . . Controls
Group Press Drives
Reels . . . Automatic Tensions
Speed Pasters

Electronic Controls for motor drives, color registering and matching, side margin and folder web controls.

Winders and unwinders complete with variable voltage drives and tension control devices.

Cline Mechanical Equipment

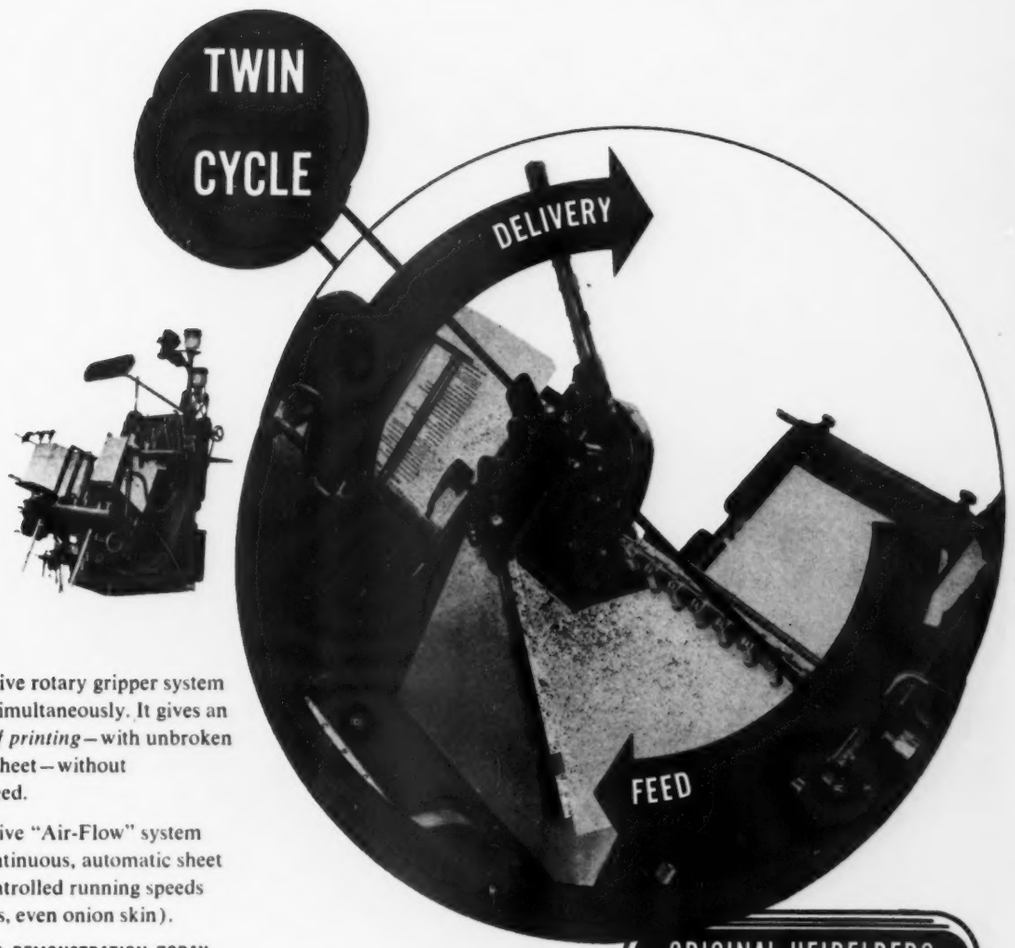
Paper Roll Handling Equipment
Mail Room & Press Conveyors
Stereotype Plate Droppers and Conveyors



Cline

ELECTRIC MANUFACTURING COMPANY
3405 WEST 47TH STREET, CHICAGO 32
600 St. Paul Ave., Los Angeles 17, California • New York 17, N. Y.

Only ORIGINAL HEIDELBERG has "Twin-Cycle" speed and Air-Flow delivery



Heidelberg's exclusive rotary gripper system feeds and delivers simultaneously. It gives an *entire extra cycle of printing*—with unbroken command of each sheet—without increasing press speed.

Heidelberg's exclusive "Air-Flow" system assures smooth, continuous, automatic sheet delivery. Boosts controlled running speeds to new heights. (Yes, even onion skin).

ASK FOR FREE TRUCK DEMONSTRATION TODAY.

ORIGINAL HEIDELBERG

THE BEST THING NEXT TO A PRINTER

HEIDELBERG DISTRIBUTORS

HEIDELBERG SOUTHERN SALES CO.
120 N. Sampson St.
Houston 3, Texas

HEIDELBERG WESTERN SALES CO.
118 E. 12th St.
Los Angeles 15, Calif.

HEIDELBERG EASTERN SALES CO.
45-45 Thirty-Ninth St.
Long Island City 4, N.Y.

HEIDELBERG SALES & SERVICE:

Columbus 15, Ohio; Chicago 7, Ill.; Atlanta, Ga.; Kansas City 6, Mo.; Minneapolis 15, Minn.; Denver 2, Colo.; San Francisco 3, Calif.; Seattle, Wash.; Portland, Ore.

Equipment & Supplies

(Continued from Page 10)

Continuous Unwinder and Winder

Principally designed for use on printing presses, bag machinery and other processes running glassine, acetate or cellophane, an unwinder and a winder new unit are available in standard models for web widths from 20 in. to 40 in.

Continuous roll changes affording continuous operation with constant control, states sponsor, can be made with the new Ferrisplice Unwinder and continuous winding of rolls is now possible with the Surfastart Winder, announces Dilts Machine Works, Div. of Black-Clawson Co.

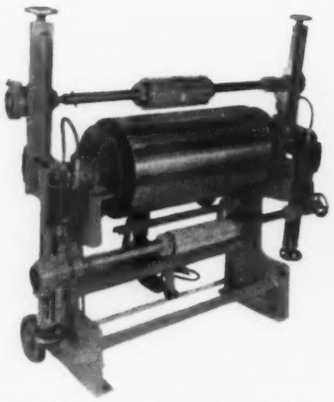
Continuous roll changes at speeds over 400 r.p.m. have been made with the unwinder without loss of register. As a roll is expiring, a new roll is loaded in the upper position and held a short distance away from the drum. The edge of the new roll is applied with pressure-sensitive adhesive or tape. At time of splicing operator actuates an air-valve allowing new roll to drop onto the drum and come up to speed. Edge of the new roll is automatically spliced to the expiring web and a cut-off knife severs expiring web. New roll is raised off drum and continues to unwind. Ferrisplice Model FSU-A handles rolls ranging from 9 in. to 24 in. Model FSU-B, from 6 in. to 18 in. O.D. Max. roll weight, 500 lbs.

Very accurate rolls with straight edges are wound with the continuous winder, it is announced. As a roll is being wound, a new core with pressure-sensitive adhesive applied is placed in the upper primary arms. As winding roll nears completion, the primary arm assembly is indexed forward bringing new core into contact with the sheet on the drum. The web is severed on the drum and the adhesive picks up the cut end and starts the web on the new core. In most cases, starting of the new roll is done at full operating speed. Completed roll is removed while new roll is winding. Model SSW provides continuous winding of rolls on cores 3 in i.d. and larger. Rolls up to 500 lbs. can be wound to diam. of 6 in. to 24 in. Webs 20 in. to 40 in. A four page fully illustrated bulletin descriptive of both unwinder and winder is available upon request by mentioning PEE No. 9.

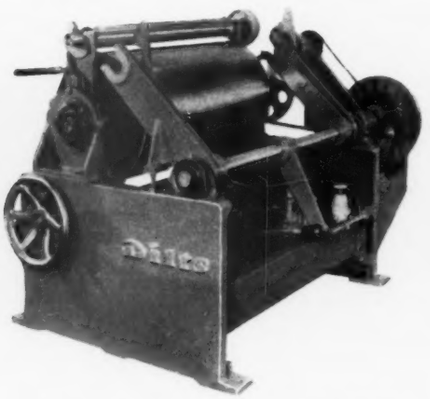
Whitehall Type Face

A modern roman type face, Whitehall, has been introduced by American Type Founders. It is a general purpose type face suitable either for display or hand set text matter, and is said to be especially good for offset reproduction. In the creation of Morris Fuller Benton's Whitehall are incorporated certain basic qualities of English old style letters with a number of the features of more modern

(Continued on Page 18)



At left is shown the Dilts Ferrisplice Continuous Unwinder Model FSU.



At right is shown the Dilts Surfastart Continuous Winder Model SSW.

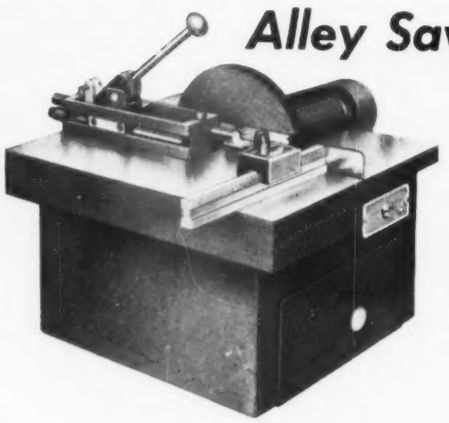
Newspapers select Wood Dry Mats because of their depth retention and plasticity, assuring quality reproductions.

WOOD FLONG CORPORATION
HOOSICK FALLS, N. Y.

WOOD DRY MATS
ALWAYS UNIFORM

New York City Office
551 FIFTH AVENUE, NEW YORK 17, N. Y.

ELIMINATE BOTTLENECKS WITH THE NOLAN Ad Alley Saw



THE NOLAN "COMET" SAW-TRIMMER is a small, fast, easily portable machine that can be quickly spotted on the make-up table to eliminate bottlenecks at the larger saws. The Comet is the only saw of its kind with a ball bearing rolling table. Write for bulletin and prices.

NOLAN Corporation
ROME, NEW YORK

A HAIRLINE OF QUALITY *makes the difference in rollers and presswork*

In today's competition for printing quality, it will pay you to standardize on Bingham Rollers—rollers that deliver that extra hairline of quality you need. There are twenty modern Bingham factories in principal cities to serve you.

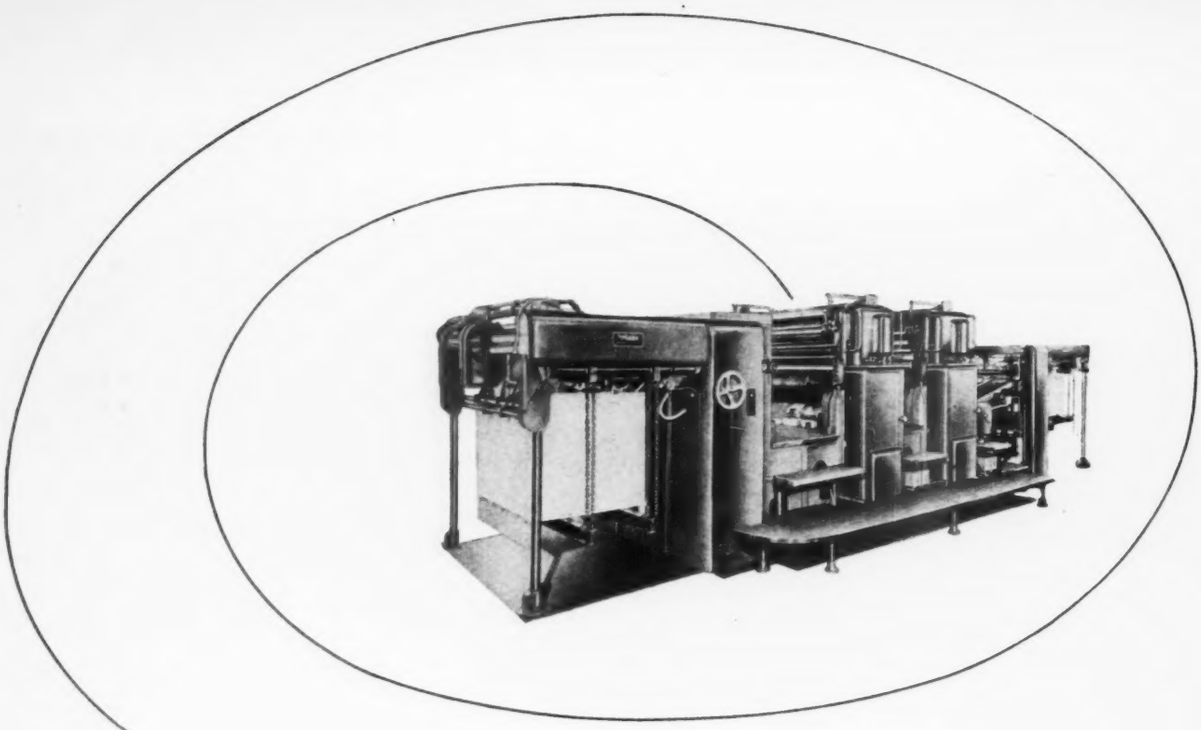
CHICAGO	DES MOINES	KANSAS CITY	PITTSBURGH
ATLANTA	DETROIT	MILWAUKEE	ST. LOUIS
CINCINNATI	HOUSTON	MINNEAPOLIS	ST. PAUL
CLEVELAND	INDIANAPOLIS	NASHVILLE	SPRINGFIELD, O.
DALLAS	KALAMAZOO	OKLAHOMA CITY	TAMPA, FLA.

SAM'L BINGHAM'S SON MFG. CO.

MANUFACTURERS OF

PRINTERS' ROLLERS

COMPOSITION . . . RUBBER . . . VULCANIZED OIL Rollers



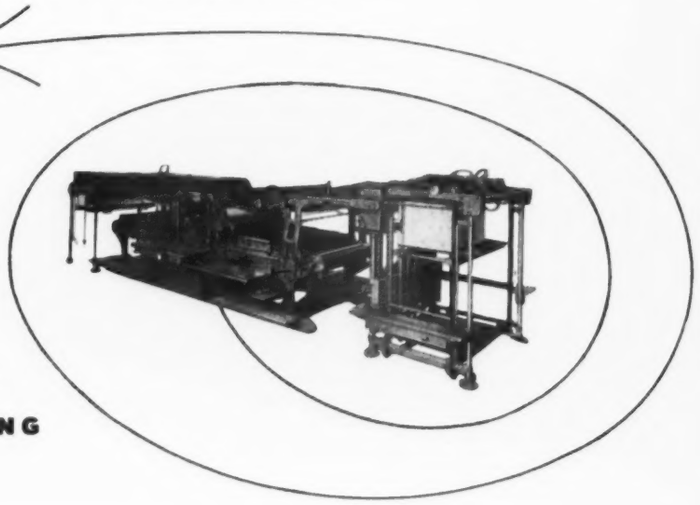
FOR HIGH SPEED LETTERPRESS PRINTING

Step up letterpress production with Miehle Sheet Fed Rotaries. They open up new markets for many types of work at speeds comparable to competing processes. With Miehle Rotaries production is increased and costs reduced on a wide variety of general and specialty printing including books, labels, cartons, publications, commercial printing.

Higher running speeds are possible and practical because of improved methods of sheet handling—stream feeding, accurate registering and chain delivery. Miehle Unit Construction, with a separate impression cylinder for each color, simplifies plating and makeready and provides more drying time between colors. Adjustments are accessible and simple. Miehle Sheet Fed Rotaries print sheets from 22x34" to 52x76" and are available as One Color, Two Color, Three Color, Four Color and Five or Six Color Presses.

STANDARD THE WORLD OVER . . .

Wherever fine printing is done Miehle Single Color and Two Color Flatbeds are recognized as standard equipment. These modern Miehles are high production presses with stream feeding, four roller distribution and chain deliveries. Maximum accessibility to forms and inking units reduce changeover time to a minimum.



MIEHLE
PRINTING PRESS
& MANUFACTURING
COMPANY

CHICAGO 8,
ILLINOIS

Production OF C&P AUTOMATIC PLATENS ALWAYS *On the march*

A "working-hour" view of the C & P Craftsman Automatic Press assembly department.

An "after-hours" view—workmen have departed but presses for assembly stand like sentries waiting for action the following day.

TAKE a picture tour with us through a section of the Chandler & Price plant devoted to the assembly of C&P Automatic platens—10 x 15 and 12 x 18.

Only then can you realize that day after day, month after month, and year after year the production of these presses is always on the march.

There are sound reasons, too, for the popularity of these presses—described by many printers as the "most profitable investment in printing presses any printer can make." Before you decide upon any automatic platen, check the reasons why. The Craftsman Automatic Press Booklet explains them in detail. Write for your copy.

THE CHANDLER & PRICE COMPANY
6000 Carnegie Avenue • Cleveland 3, Ohio

Built by American Workmen

Equipment & Supplies

(Continued from Page 14)

Bodonian letterforms. Sizes from 8 pt. to 48 pt. of the roman face are now available. ATF has pattern plates for a companion italic and matrices will be cut if a demand for them is found. Specimen sheets and fonts of available sizes of Whitehall may be obtained by mentioning PEE No. 3.

Fire Brochure

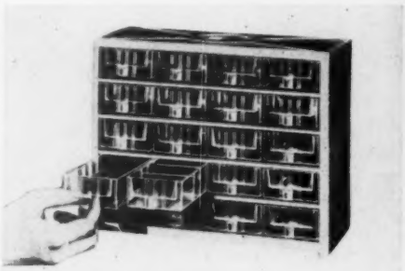
Built-in carbon dioxide fire extinguishing equipment for gravure, black and white, and magazine printing presses is described in a 16 page, illustrated booklet prepared by Walter Kidde & Co., Inc. It shows the fire hazard created by the increasing use of quick-drying agents in inks used on newspaper and magazine presses. Also, it states that the same type of automatic carbon dioxide extinguishing systems designed for protecting gravure presses and associated equipment is the fire hazard solution. For further information, please specify PEE No. 2.

Ektagraph in Rolls

The Eastman Kodak Co. has announced that Kodak Ektagraph Film is now available in two roll sizes, 20 in. by 30 ft. and 40 in. by 30 ft. For further details, please request PEE No. 10.

Transparent Drawer Parts Cabinets

General Industrial Co. announces production of See-Thru Drawer Cabinets for small parts filing and storage. The Model



J-20 consists of 20 clear plastic drawers, 5⅞ in by 2¾ in by 1 1/16 in., in a welded all steel cabinet. Overall size is 10¼ in. by 12½ in. by 6 in. The cabinet is finished in silver-gray and is equipped with rubber feet. Adjustable drawer dividers and identification labels are included. Other See-Thru drawer units now in production include models ranging from 8 to 128 drawers, models with larger size or metal drawers, and portable models with carrying handles. When asking for full information please mention PEE No. 4.

Kodak Photographic Materials Catalog

A catalog in which is described Kodak Photographic Materials for the Graphic Arts, has been announced by the Eastman Kodak Co. The catalog is designed to provide users of Kodak materials with detailed descriptions of the photographic and physical characteristics of the company's materials and equipment for the industry. The 48 pages in the booklet includes products for photoengraving, photolithography, both black-and-white and full color reproductions, color materials for photographic color copy preparation and materials for fluorescence process work. More than 76 classes of products are represented. Copies may be obtained by asking for PEE No. 12 in your request.

Disposable Work Cap

A disposable paper work cap has been developed by Record Industrial Co. The cap is made of heavy Kraft paper which has been treated with Neoprene synthetic rubber. It is water-repellant, and comes pre-treated with a flame retardant. Reputedly it does not collect dust readily, and, while light in weight, is said to be substantial and hold its shape well. Neoprene paper is also said to be resistant to acids and alkalies. When writing for further details please refer to PEE No. 8.

Neoprene Base Gum

The Stereotype Equipment Co. has announced a new gum for making plates used in flexographic printing. Made with a Neoprene base, it is claimed all the characteristics of natural rubber are retained, including the bounce essential for fast recovery at high speeds. No sulphur is used in the compound. It is claimed the new Neoprene base gum will resist to

(Continued on Page 25)

DO THE WORK OF HOURS *in Minutes!*

SLASH YOUR PRINTING COSTS WITH THE

Rouse

POWER MITERER

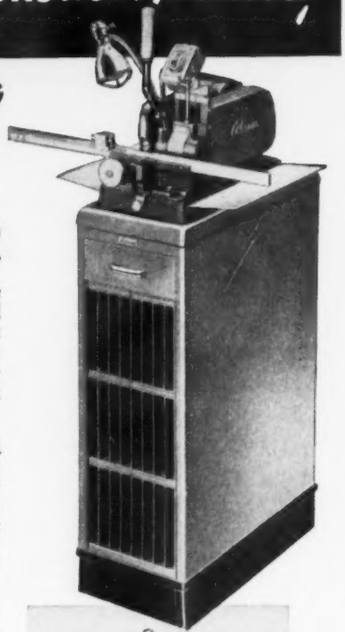
If you need miters in either small or large quantities, no other machine nor method can turn out anywhere near as many perfect joining miters so quickly from strip material. That's how the Rouse Power Miterer can slash your printing costs by doing work in minutes that now takes you hours.

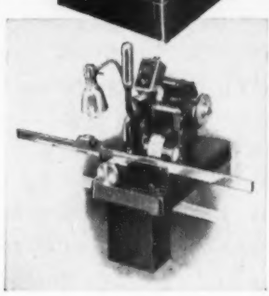
A Rouse Power Miterer won't cost you one cent! Printers the world over say that money paid for a Rouse Power Miterer quickly comes back through tremendous savings in expensive time. After getting your money back, you'll start collecting daily dividends from permanently lower operating costs.

FROM THE SMALLEST JOB SHOP UP TO THE LARGEST PLANT, ONLY ROUSE MAKES A POWER MITERER FOR EVERY TYPE OF USE.

You may buy any Rouse Power Miterer as a bench model or with any other equipment you wish.

Virtually every printing plant in the world uses one or more Rouse products.

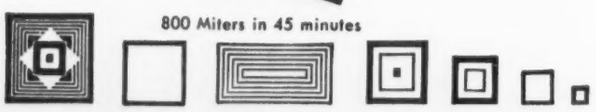




NEW ROUSE CATALOG

Write for your copy TODAY!

800 Miters in 45 minutes



H. B. ROUSE & COMPANY

2214 NO. WAYNE AVE., CHICAGO 14, ILLINOIS

ROUSE PRODUCTS – THE STANDARD OF THE WORLD FOR 50 YEARS

MITERING MACHINES
LEAD and RULE CUTTERS
COMPOSING STICKS
TYPE GAUGES
SLUG CLIPPERS
BAND SAWS

How's this for a close register job?

You're looking at a pair of raw castings which make the side frames of an ATF Chief 29 being positioned on the magnetic chuck of a Blanchard surface grinder.

Alignment of the frames that support all the moving parts of a press must be absolutely accurate for smooth, high-speed, close-register printing.

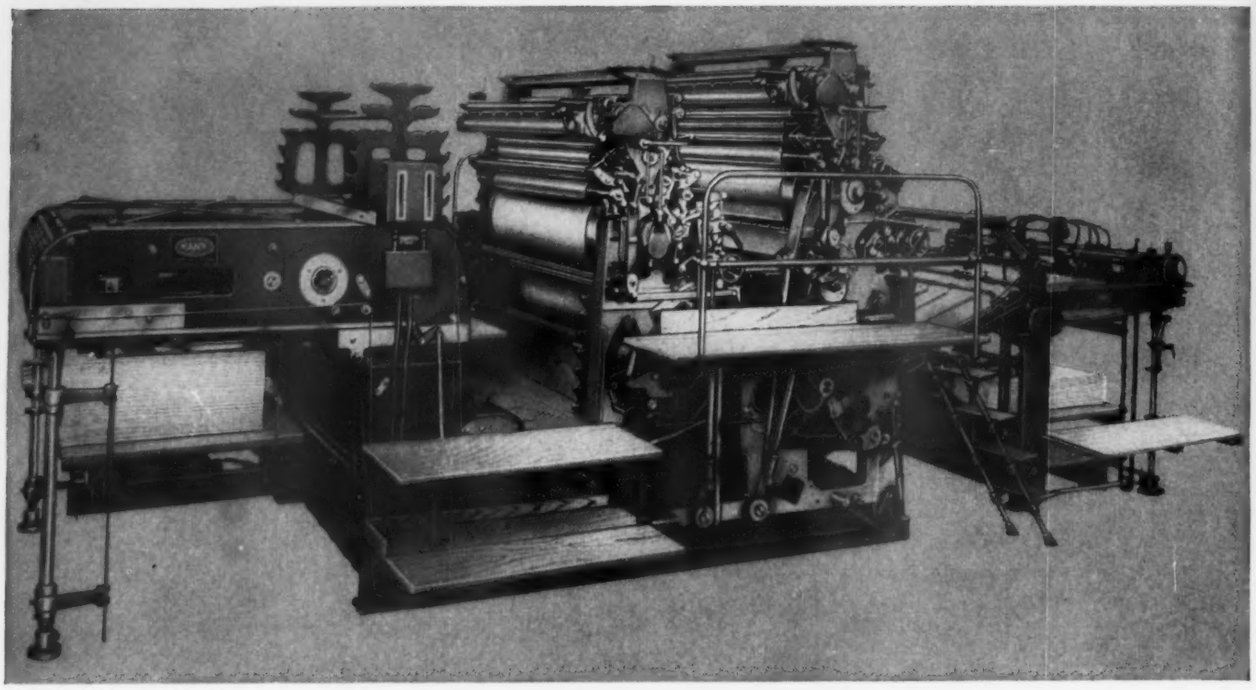
That kind of split-hair accuracy can't be milled or planed. It's precision-ground into the frames of ATF Chiefs on this 72" Blanchard surface grinder, the only one of its size in the printing industry. It eliminates every irregularity down to .0001" (one ten thousandth).

And how does this precision alignment of Chief frames affect the price you pay for the press? *It reduces it!* Machine tools like the Blanchard surface grinder actually cut production costs, and the saving is passed on to you. Regardless of price, you can't buy finer, more accurate printing equipment than you'll find in the precision-engineered, precision-built ATF offset presses.

Write for the complete story on the ATF Chief. American Type Founders, *a subsidiary of Daystrom, Inc.*, 200 Elmora Avenue, Elizabeth, New Jersey.

Better, More Profitable Printing from the Widest Line of Processes

GRAVURE . . . LETTERPRESS . . . OFFSET



"Our ATF-Mann gives us top quality two-color register...even at top speeds"

That's what you'll hear from printers who own or run an ATF-Mann two-color press. And here's why they do get perfect register every time:

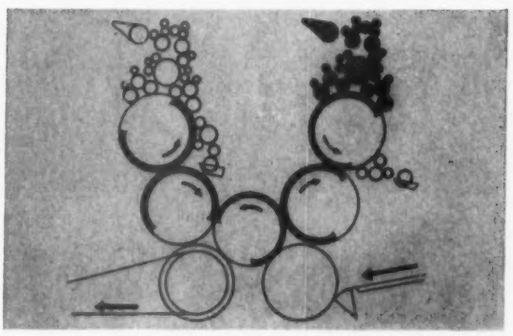
First, the ATF-Mann feeds press sheets in a smooth *overlapping* stream at *one-fourth* press speed. This allows each sheet more time at the front guides for register—and eliminates any bumping of the feed edge of the sheet.

Second, the ATF-Mann's exclusive Swing Feed takes the sheet from the front guides at a dead standstill and smoothly accelerates it to the speed of impression cylinder. Swing Feed grippers do not release sheet until *after* the next set of grippers have closed on it and both sets of grippers have traveled $^{3}/_{8}$ of an inch.

Third, both color impressions are made while the sheet is positively held by a single set of grippers (see diagram at right). There is no transfer of the sheet between impressions.

Fourth, the massive, balanced, rigid construction of the ATF-Mann prevents vibration, deflection or distortion which would throw off register at high speeds.

This sustained register and other exclusive features of the ATF-Mann make the very finest lithographic reproduction possible even at high-production speeds. Write American Type Founders, *a subsidiary of Daystrom, Inc.*, 200 Elmora Avenue, Elizabeth, New Jersey.



SUPERIOR INKING UNITS of the Mann two-color press are designed to give superb coverage, perfectly controlled. 26 rollers in each unit provide more square inches of ink breakup than any other press, size for size.

FLOATING IMPRESSION, essential for the finest offset reproduction, is obtained on ATF-Mann presses by the elimination of bearer-to-bearer contact, use of double blankets, large precision ground helical gears, and an exclusive method of paralleling cylinders.

Ask the man who owns a Mann—he'll tell you it pays to buy the finest

Type faces shown are: Bodonis, Spartans, Dom Casual, Alternate Gothic No. 2.

ATF

Better, more profitable printing from the widest line of processes...

GRAVURE...LETTERPRESS...OFFSET

Thanks, Fellows,
for All Those Kind Words!
A few of the many platemakers, lithographers, printers, publishers and industrials who are so satisfied with their
STRONG GRAFARC LAMPS
recently had this to say:

"Exposure time on photo-composing plates has been cut in half and with less than perfect contact, a good image is still retained."
—One of America's Largest Industrials

"We have been able to shorten the time of exposure approximately 50% on both camera and monotype composer."
—A Portland, Oregon, Industrial

"Our experience has been good, particularly in the reduction of exposure time by approximately one-half, and in a complete trouble-free operation without shut-down time."
—A Leading Map Maker

"On the camera we get much better coverage. The exposure in plate-making has been cut just about in half. The motor driven carbons help to maintain a more uniform light."
—A Bloomington, Illinois, Publisher

"CUT PRINTING TIME TO LESS THAN HALF what it formerly required. The voltage control mechanism assures maximum efficiency at all times."
—A Pittsburgh Platemaker

"The mechanical feed system takes a great deal of the fuss and bother out of light adjustment and SAVES TIME. MAKES OUR JOB EASIER."
—A Buffalo Platemaker

"CUT OUR PRINTING TIME IN HALF."
—A Los Angeles Platemaker

"ECONOMICAL on electric current consumption and are fast on exposure time."
—A Denver Platemaker

"The feature of self-adjusting carbons is especially appreciated. The single light produces a CLEARER, SHARPER REPRODUCTION avoiding the refraction from a double light."
—A San Francisco Platemaker

"We bought our Strong Grafarc printing lamp in January 1948 and it has been in CONTINUOUS SERVICE ever since that time WITHOUT A SINGLE FAILURE. The SAVING IN CURRENT over this period of time has probably PAID FOR THE LAMP, in addition to the saving in time in making prints. We recommend it to anyone who plans to do top quality work."
—A Waco, Texas, Platemaker

"A Strong Grafarc lamp has enabled us to reduce our exposures of deep-etch plates by two minutes and thirty seconds, and on flat plates, one minute, which certainly is a GREAT SAVING TO US IN PRODUCTION TIME."
—A Winnipeg, Canada, Printer and Lithographer

"ONE OF OUR PROUDEST POSSESSIONS."
—A New York City Printer

"Giving very satisfactory results. WE APPRECIATE THE PERIODIC CHECK-UP made by your representative to see that our lamp is in good working order."
—A Milwaukee Printer and Lithographer

"The COVERAGE IS VERY GOOD and there is NO FLUCTUATION IN LIGHTING."
—A St. Louis Printer

"WE WONDER HOW WE GOT ALONG WITHOUT IT for so long."
—A Salt Lake City Lithographer

"We have been particularly well pleased in its uniform coverage of large areas, and OUR STANDARD EXPOSURE TIME HAS BEEN CUT IN HALF ON NEARLY ALL KINDS OF WORK."
—A Louisville Printer

"HAS DOUBLED OUR CAPACITY IN MAKING PLATES."
—An Indianapolis Lithographer

"The BEST AND MOST EFFICIENT LAMPS ON THE MARKET."
—A Detroit Lithographer

"ONE OF THE BEST INVESTMENTS WE'VE EVER MADE in shop equipment."
—A Phoenix Platemaker

"The most important and pleasing features of the lamps are their CONSISTENCY OF LIGHT OUTPUT; the coverage that we get on the entire copy board; the very handy dials which show voltage flow; and the ease with which we "punch-through" dense Kodachromes."
—A New York City Platemaker

"They are VERY SPEEDY, COVER A WIDE AREA, and give MORE INTENSE ILLUMINATION of the copy. The latter results in CLEARER, SHARPER NEGATIVES."
—A Kansas City, Mo., Platemaker

"We COULDN'T GET ALONG WITHOUT THEM. We have NOT HAD A SINGLE BREAKDOWN, and all the difficulties we encountered before we installed your lamps are overcome. The printing lamp INCREASES OUR PRODUCTION AS MUCH AS 60% in exposure."
—A Portland, Oregon, Platemaker

For control that improves quality, intensity that speeds production, efficiency that saves you money, install Strong Grafarc Fully Automatic High Intensity Arc Lamps.

Models for all photo-mechanical reproduction processes. Use coupon now to obtain prices and complete literature.

** Names of these customers on request.*

THE STRONG ELECTRIC CORPORATION
307 City Park Avenue **Toledo 2, Ohio**

Please Send Free Literature and Prices on the Complete Line of Strong Grafarc Lamps

NAME _____

FIRM _____

STREET _____

CITY AND STATE _____

NAME OF SUPPLIER _____

ENGINEERING REPORTS:

Oakland Tribune's new G-E electronic press drive accelerates smoothly, reduces web breaks

Powered through electronic control, 10 G-E d-c drive motors rolled the Oakland Tribune's new Hoe Press for the first time early in March, 1953.

A G-E Service Engineer worked closely with the *Tribune* and on the day following final mechanical adjustments, March 13, the first edition came off this 50,000 pph press. Since that time it has been in continuous operation.

Joining a long list of newspapers using the G-E Electronic Press Drive, the *Oakland Tribune* is now taking advantage of this drive's flexibility and smooth operating characteristics. Like the other newspaper publishers across the country using this electronic press drive, the *Tribune* realizes that —

1. The smoothness of operation, both starting and stopping, results in fewer web breaks and more production.

Stepless speed adjustment eliminates web-breaking jerky speed jumps. The press climbs from threading to full-speed smoothly and easily. When stopping, dynamic braking on each unit brings the press to a smooth stop. The cost of brake adjustment and maintenance is eliminated.

2. The wide variety of press combinations makes this an extremely versatile and flexible drive.

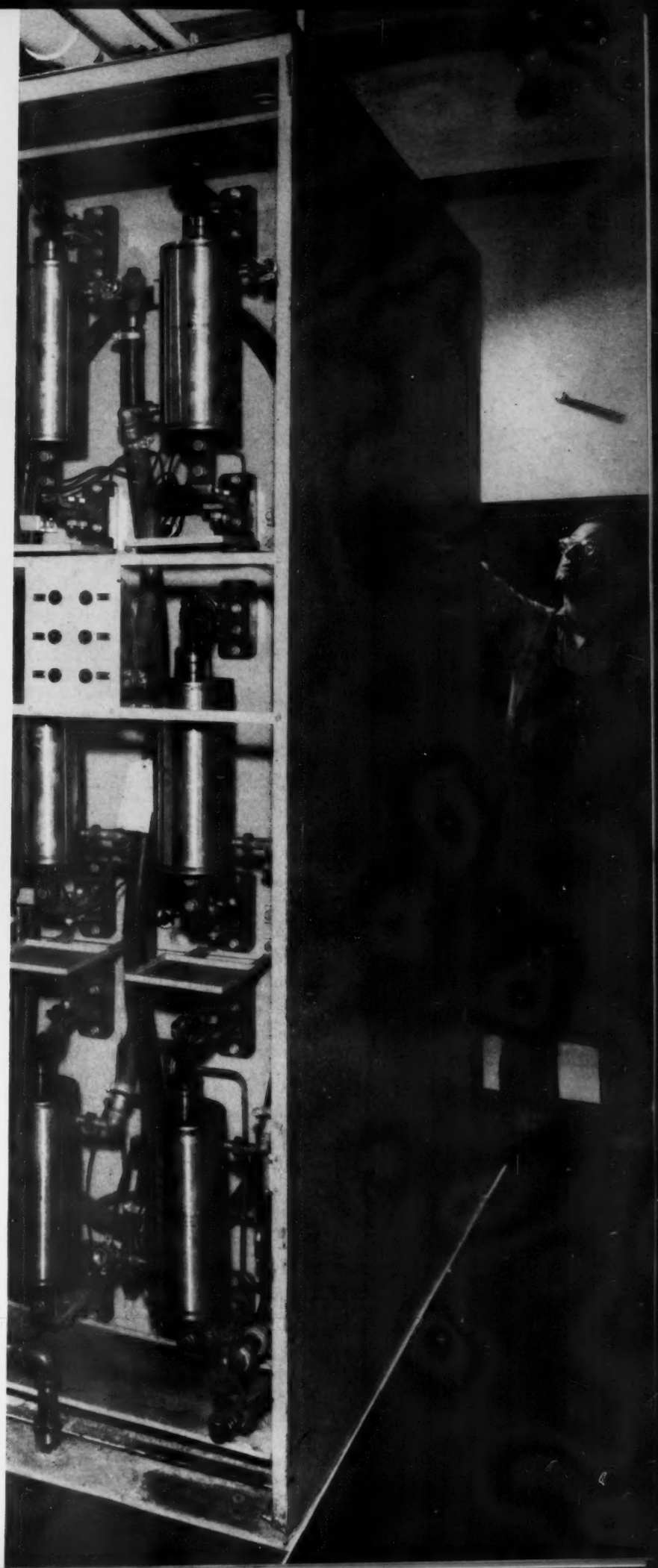
With an individual drive motor for each press unit and folder, each motor handles threading, inching, running, and braking for its unit. Since any combination of press units can be arranged, the *Tribune* can meet varying production schedules as well as possible color runs.

Besides flexibility, the individual drive system is "production insurance." In the event of motor failure, two-thirds of the motors will operate all units of the press at above two-thirds speed.

Investigate this modern drive for use on your newspaper press. G.E.'s application and sales engineers will be glad to discuss it with you. Contact your nearest General Electric Apparatus Sales Office or write for Bulletin GEA-5523. General Electric Company, Section 653-33, Schenectady 5, N. Y.

GENERAL ELECTRIC

All power requirements are handled on the Oakland Tribune's new Hoe Color Convertible Press with 10 individual G-E drive motors. Individual adjustable-speed drives on each press and folder unit eliminate the need for slow motion motors, over-running clutches, and drive and press brakes. Fire hazards are reduced, maintenance costs lowered by force ventilating of motors.



Giving the Oakland Tribune economical flexibility and close speed control, the ignitron rectifier controls and powers the drive. Operating to supply adjustable voltage to the motor, these units are designed in "building-block" fashion to accommodate future units. All components are easily accessible through full front and back doors.

Ever looked at your printing sales possibilities through the eyes of a specialty printer?

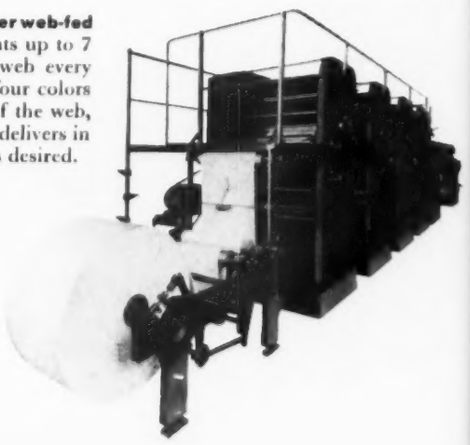
• Try it! You'll be surprised at the volume of specialty work that could be done for firms right in your own town, work now going to printers equipped to handle it.

You may have lost one or two jobs because your present sheet-fed, one- or two-color presses are unable to turn out specialized work at the required price.

Profitable production of playing cards, book jackets, gift wrappings, calendars, maps, greeting cards, insurance policies and many other kinds of specialty printing requires a multi-color high-volume press, designed and built especially for its particular job.

That's exactly what you'll find the ATF-Webendorfer web-color and specialty presses to be. They're custom-built to your specifications. These web-fed presses turn out so much more work than any sheet-fed equipment, and at such a saving in production costs, that they pay for themselves, on the average, within four years.

If your sales area uses a sizable volume of specialty printing, you owe it to yourself to get the complete story on these ATF-Webendorfer web-fed offset presses. Write to American Type Founders, Mount Vernon division, *a subsidiary of Daystrom, Inc.*, Mount Vernon, New York.



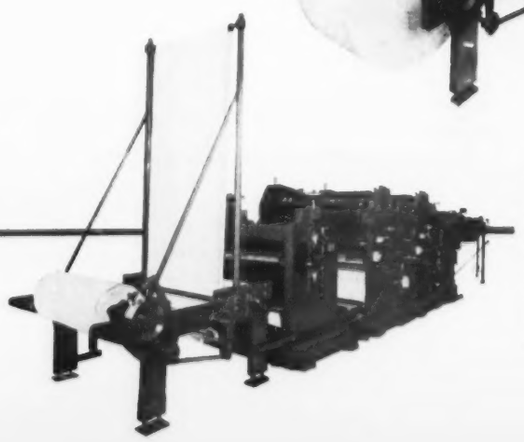
ATF-Webendorfer web-fed color press prints up to 7 miles of a 40" web every hour. It prints four colors on both sides of the web, die-indexes and delivers in sheets or rolls as desired.

Better, More Profitable Printing from the Widest Line of Processes

GRAVURE . . . LETTERPRESS . . . OFFSET

ATF

★ *In addition to the complete story on specialty presses, write today for ATF-Webendorfer's fully-illustrated brochure on business forms equipment.*



All ATF-Webendorfer specialty presses are built to your specifications on cylinder width and circumference, speed, number of colors, and finishing operations to be performed.

Equipment & Supplies

(Continued from Page 18)

a high degree the swelling and etching effect of fast-drying alcohol or oil base inks. The gum is available in any hardness needed for flexographic printing. Working samples of uncured gum or printing plates from master plates can be had by mentioning PEE No. 5 in your request.

Model AC Process Camera

The Model AC Process Camera, states Miller-Trojan Co., is now in production. The rear of the unit is flanged to permit

attachment to the darkroom wall. Focussing is done manually inside the darkroom by means of tapes for controlling the relative position of the lens and copyboards. Enlargement range is two times and reduction is five times. Camera is supplied with Wollensak lens with diaphragm control and electric solenoid operated shutter. A selector valve permits use of film from 4 in. by 5 in. up to and including 24 in. Copyboard lights, 3200 deg. K., 1500 w.; vacuum back, glass covered copyboard. Camera is made in three sizes, 11 in. by 14 in., 16 in. by 20 in., and 24 in. by 24 in. Please mention PEE No. 6 when asking for information.

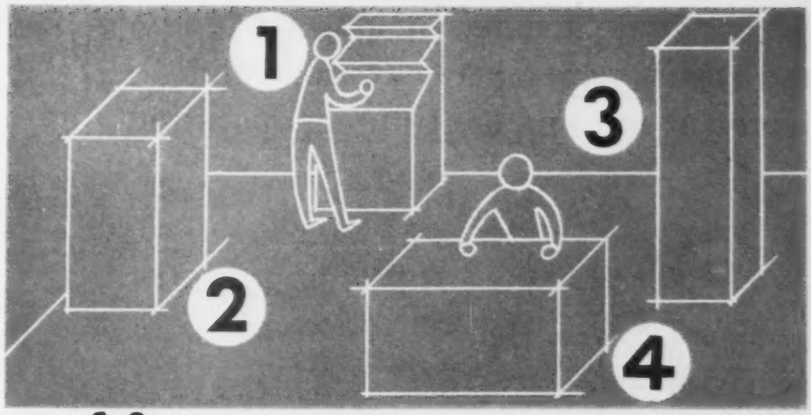
DRD Dampener Roller Detergent

Alfred Jasser, President and Chief Chemist of Anchor Chemical Co., has announced development of a new product. It is called DRD Dampener Roller Detergent for cleaning offset press dampener rollers. Please request PEE No. 34 when inquiring for further details.

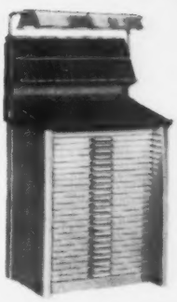
Drives for Paper Machines

An eight page bulletin on drives for paper finishing and converting machines is available from the General Electric Co. The two-color publication (GEA-5560) includes illustrations and descriptions of installations of G-E adjustable-speed

(Continued on Page 57)

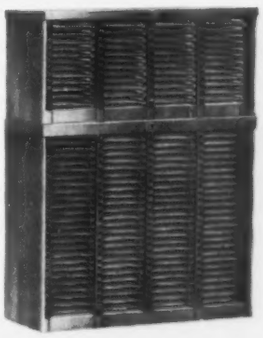


Your plant too can be ALL Hamilton ALL-PROFIT!



Yes, there's Hamilton equipment for any and every printing job—from setting type to trucking galleys. Furthermore, the Hamilton way is always the fast, accurate, efficient, and thus *more profitable* way.

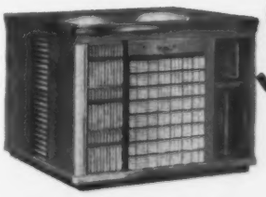
Although you see here only a sampling, your Hamilton Dealer will gladly show you more of this modern line—unsurpassed for completeness, performance, and quality.



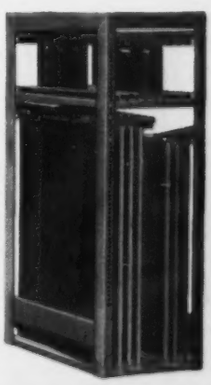
1 *EVERYTHING AT HAND* Hamilton Type Cabinets have no peer for accessibility and capacity—with every convenience for swift, errorless composing. Wide choice.

2 *FLOOR SPACE SAVERS* Hamilton Galley Cabinets come in varying sizes. May be installed symetrically side by side or, thanks to welded steel strength, stacked two-high.

3 *SAFETY FOR FORMS* Hamilton Steel Chase Racks with widely spaced channels keep forms well apart, prevent costly damage. Model shown has adjustable top guides.



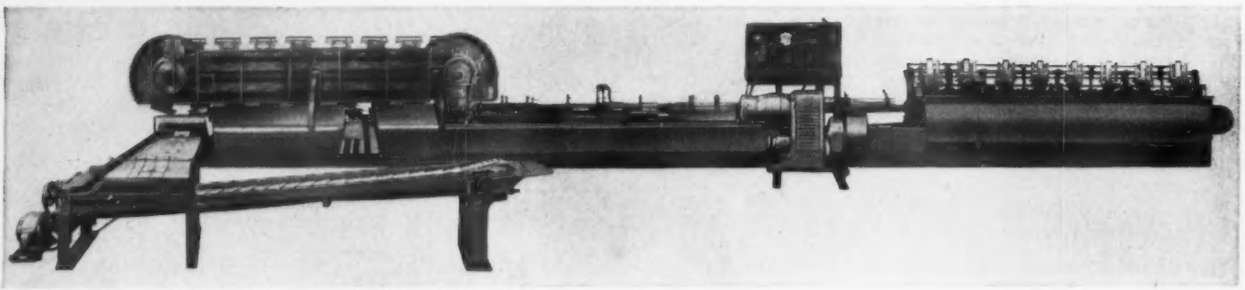
4 *FOR ACCURATE LOCK-UP* Hamilton Imposing Tables have ground and polished surfaces for absolute accuracy of form lock-ups. Plenty of orderly storage space too!



Hamilton PEAK-PRODUCTION equipment

HAMILTON MANUFACTURING COMPANY TWO RIVERS WISCONSIN

Gathers and stitches (or perfect binds) and covers paper backed books and magazines in one continuous operation



The New Dexter Gatherer, Stitcher, Binder and Coverer

This newly engineered combination of several machines in one can be furnished in *four types* to do any of the following:

Gather and deliver
Gather, stitch and deliver
Gather, stitch, cover and deliver
Gather, perfect bind and deliver

THE BASIC GATHERER is of new Dexter rotary design. It has a minimum of eight hoppers or boxes, which may be expanded in units of four to handle any number of signatures desired.

THE STITCHER is of entirely new design and stitches two books at a time, operating at half the speed of the gathering chain. It handles books up to 7/8" thickness, stitching at one stroke either two single books with one, two, three or four staples per book, or two-up books with four staples (two to each book), depending on the number of Boston stitcher heads used.

THE BINDER is of the "on edge" type with "clam shell" clamps. Rotary type knife and sander remove book backs prior to glue application. Maximum stock removal on 1-1/4" books is approximately 3/16". The two glue pots supplied serve for coverer or for perfect binding. Either animal or plastic glue may be used.

THE DELIVERY consists of wide belt which takes books from the clamps, and/either a narrower, slow speed belt which delivers books to the take-off table, or alternate jogging packer box.

The gatherer, stitcher and binder has a maximum speed of 100 to 150 books per minute. Actual production will depend on make-up of book, care with which signatures are loaded and weight and quality of paper.

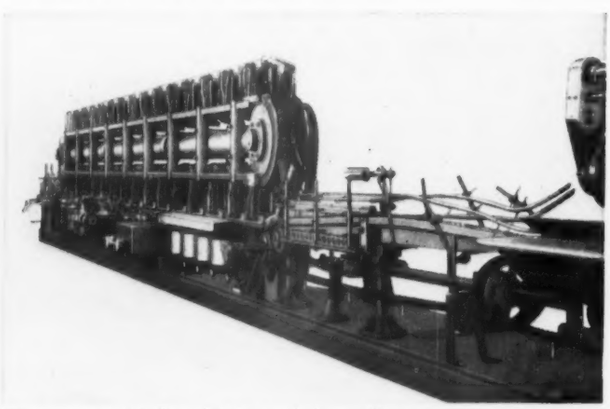
As PERFECT BINDER, operation is at geared speed of 100 to 150 books per minute, depending on thickness of books being bound.

BOOK SIZES are:

maximum, after trimming,	12 x 16"
minimum, after trimming,	5 x 7"
maximum thickness	1-1/4"
minimum thickness	1/8"
maximum thickness of cover	.010"

The Dexter representative will be glad to discuss the application of this machine to your production and to help in preparing an analysis of its earning power under various rates of production.

The gatherer

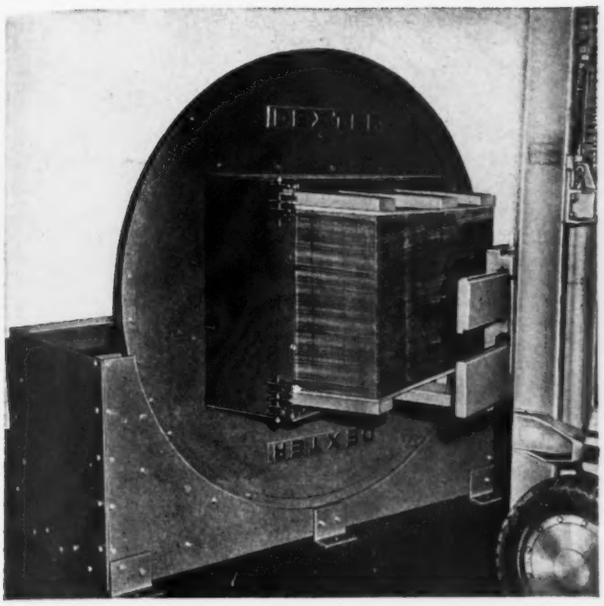


The perfect binder. Right to left: gatherer, raceway, joggers, grinder and glue pots

Dexter Folder Company *General Sales Offices* 330 West 42nd Street, New York 36, N. Y.

Boston, Philadelphia, Washington, Cleveland, Chicago, St. Louis. Agents in principal foreign countries.

The Dexter Metal Sheet Pack Turnover



The Dexter Metal Sheet Pack Turnover

Basically, this motor driven device comprises a "wheel and box" mounted on an axle and set in supporting frame.

Sheets delivered face down from the drying oven in stacks or piles, are trucked on skid into the turnover. A second skid is placed on top of the pile and a half revolution of the turnover brings the pile of sheets to face up position, resting on the second skid.

The pile is then trucked out to the next operation.

There is no clamping of piles.

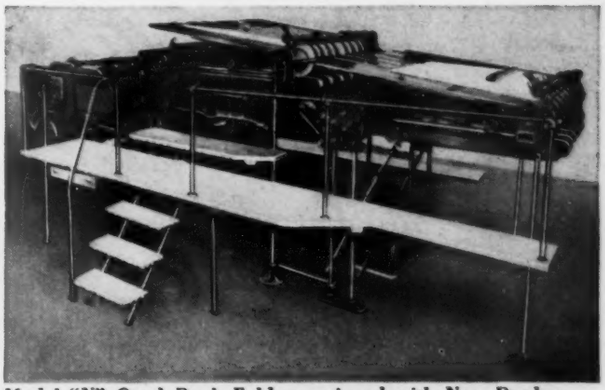
The machine is built in two sizes, one handling sheets up to 36 x 36", the other, up to 36 x 44". Minimum size sheet handled by either machine is 16 x 16". Maximum permissible load is 6,000 lbs. and sheets of any thickness can be handled.

The pile is jogged in both directions into the box during the process of turning which takes approximately 20 seconds.

Additional information will be furnished on request.

Dexter Folder Company
General Sales Offices
330 West 42nd Street, New York 36, N. Y.
Boston, Philadelphia, Washington, Cleveland, Chicago, St. Louis
Agents in principal foreign countries

Adapting your Dexter Model "N" Quad Book Folder to run 128 pages



Model "N" Quad Book Folder equipped with New Duplex Attachment. Rear view showing two Cross Feeders.

Your Dexter Model "N" Quad, now set up to deliver four 16 page signatures, or two 32 page signatures made up of inserted 16's, at each cycle, can now be converted to practically double its present capacity.

With the New Duplex Attachment, it will deliver four *32* page closed head signatures, perforated head and foot — or, on certain lightweight stocks, two *64* page signatures (inserted *32*'s) — instead of its present two 32's.

To your present "N" Quad are added another cross continuous feeder and an extra first fold level. The *two* cross feeders in tandem arrangement feed the sheets, each to its separate conveyor, in timed relationship.

Accurate register is assured by slow-down provided at top and bottom first fold level to eliminate buckling at the front gauge. Independent register is provided for each sheet at front and sides.

From this point, the standard "N" Quad mechanism takes over and the folded 32 page product is eventually delivered, perforated head and foot, into separate packer boxes.

Your Model "N" Quad can still be operated as a standard single quad delivering the usual four 16 page signatures or two 32 page signatures (inserted 16's) at each operation.

The Duplex Attachment will not change the maximum and minimum sheet sizes now handled by your Model "N", but it *will* effect savings in folding costs and still further economies in subsequent gathering and sewing operations.

Operators

eye-dentify

errors with Matrix Contrast Service

With Matrix Contrast Service, operators set 'cleaner' type—an average of over 25% fewer errors—with less effort, less eyestrain, and consequently, less fatigue. For the employer, this means correction time converted to production time and other savings all down the line.

It's not expensive, either! Our skilled technicians, made up of 31 efficient crews and backed by 30 years of experience, process your matrices in your plant *without fuss, muss or any supervision.*

When you buy new matrices, they are delivered to either our New York, Chicago, or Los Angeles plant for treatment in accordance with your color system.

Simply advise us how many machines you operate; and, without obligation on your part, we'll submit our estimate for treating and maintaining your matrices in Black & White or Colors.

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MATRIX CONTRAST SERVICE

MATRIX CONTRAST CORPORATION

154 West 14th Street, New York 11, N. Y.
326 W. Madison Street, Chicago 6, Ill.
1105 Trenton Street, Los Angeles 15, Calif.

European Agents: Funditor, Ltd., 3 Woodbridge Street, Clerkenwell Green, London, E.C.1.

PRINTING
EQUIPMENT
Engineer
January 1954

Photocopy Camera Relieves Pressure in Ad Production

THERE is always an urgent need in the daily newspaper plant, particularly the seven-day publication, for speeding the processing of advertisers' copy once it is brought into the plant. Pressure resulting from the brief time element sometimes makes it difficult to publish the customer's OKd display advertisement on scheduled date.

Just recently, to greatly reduce production bottlenecks at the Cleveland *Plain Dealer*, a Haloid Foto-Flo Photocopying camera was installed in the composing room.

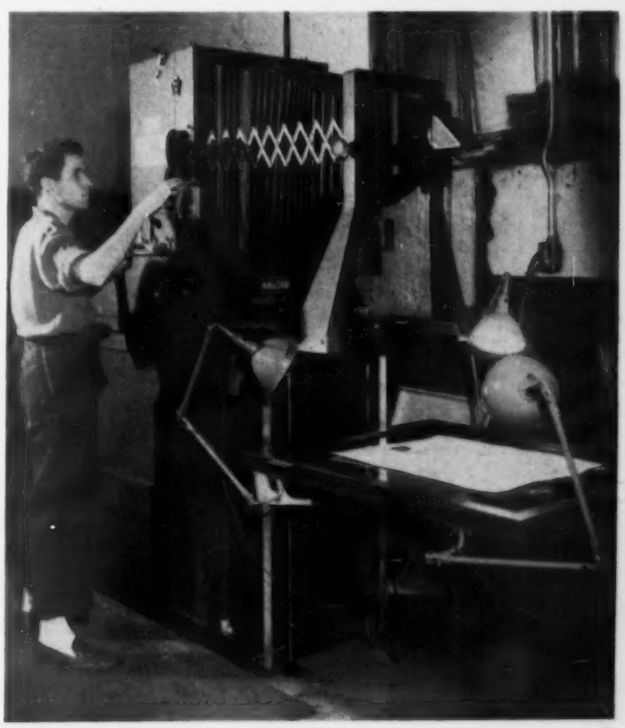
Production Mgr. Leon A. Link explained that "Usually, department stores furnish one large penciled-in layout sheet with the copy. The layout sheet is of newspaper page size. The copy is typewritten on separate letterhead size sheets. When the copy and layout are delivered into the plant, it is desirable to send both to the composing room for composition as quickly as possible.

Mr. Link continued: "It may be also that the art work (for instance, one showing a woman in a new style dress, or perhaps handbags, shoes, and whatnot) has not been completed by the art department. Now if the layout is given to the art department, work in the composing room will be delayed. If, on the other hand, the layout goes to the composing room, the art department cannot furnish the required illustrative material.

"Another cause for delay in newspaper plants maintaining photoengraving departments is that engraving work takes time (when thought of in connection with rapid newspaper publication deadlines). Consequently, work on ad copy in the art department or the composing room is slowed up because of lack of the original layout sheet, the photoengraver in turn will be the cause of additional delay."

In further explanation of the uses of the Foto-Flo camera, Mr. Link said: "Another hindrance to rapid production in newspaper advertising is that many advertisers are demanding that their advertisements be composed in such manner as to secure for them maximum reader attention value. This includes time consuming operations such as making photoengravings with reverse lettering, type matter with screened backgrounds, insetting type matter at an angle in connection with an illustration, and a number of other trick types of design which please the advertiser. But they just don't please the photoengraver nor the production management when pressure is on to make editions.

"All of these statements lead up to the usefulness of a photocopying camera in



Here is shown Foto-Flo Photocopying Camera in use at Cleveland *Plain Dealer*.

Photographic copies of type matter are developed in the tower and are delivered to the fixing tray automatically.

the newspaper plant. This equipment can be made to reproduce an advertiser's layout full page size in 7 min. or 8 min. per photocopy so that everybody concerned may start work simultaneously on advertisement construction. In addition, much time is conserved in the engraving department by furnishing photocopy type proofs in reverse such as black on white and type with screened backgrounds for the general run of advertisements. Another time conserving operation is that a photocopy proof may be sent to the art department for insertion in the artist's actual drawing or photo in the position indicated. This conserves time in the engraving room by reducing copy to one shot and eliminates separate hand stripping operations into the negative."

The Foto-Flo camera and equipment has been placed in the ad alley and a few steps away from the photoengraving department. The men in charge of the equipment are the day and night ad alley foremen, Victor Galazin and Herbert Kundmueller, respectively, under the supervision of Composing Room Supt. Deo A. Padgett. Just to indicate the use volume to which the equipment has been put at the *Plain Dealer*, Padgett said that during a recent night, 143 shots were made in 9 hrs. On some of the flats there were 16 images. Most of these were intended for the photoengraving room and consisted of reverses, enlarged type copies, copies of illustrations in combination with type matter and Craftint screened backgrounds on type matter. The latter are secured by placing a Craftint transparent screened support over a reproduction type proof and exposing it in the camera.

The Foto-Flo Camera itself is an interesting piece of equipment. It might be called automatic in operation even though there are some hand operations such as setting the timer, turning on the lamps, positioning the copy on copyboard, rolling down the sensitized paper, cutting off the paper to proper length after exposure, and adjusting the machine for proper reduction or enlargement of the copy.

The *Plain Dealer* camera is 18 in. by 24 in. size. The machine will reproduce up to 100% enlargement. Copy up to 36 in. by 48 in. can be reduced in one shot to 18 in. by 24 in.; 9 in. by 12 in. copy may be enlarged in one shot up to 18 in. by 24 in.

Sensitized paper is supplied in 350 ft. rolls in a light-tight box in the upper part of the camera case at the rear of the bellows.

An anastigmat lens in combination with a precision ground prism is used in the camera. Four No. 1 Photoflood lamps illuminate the copyboard. The camera bed is movable through rack and pinion mechanism when it is desired to reduce or to enlarge copy. Adjustment of the camera for this purpose is accomplished by consulting calibrated scales.

There is nothing too complicated about operation of the Foto-Flo Camera. One of the operators was heard to say: "There isn't anything to learn about photography in operating this camera—it is all figured out for you."

Development of the sensitized paper after exposure is done within the camera automatically. The copy is then delivered (also automatically) into the horizontal hypo tray for fixing. In the fixing operation, the following developed paper pieces are delivered successively beneath the top prints. A full page photocopy is exposed and developed in 11 sec. and fixing requires 45 sec. time. The photocopies are then washed in a tray containing water, after which they are placed in an automatic print drying machine. The drier is drum-like in appearance and is electrically heated. About 4½ min. are required for a complete revolution of the drum to the delivery station to dry the photocopy. This operation is automatic once the print has been placed in the drier.

Paper Properties as Related to Printability

By WILLIAM H. BUREAU*

**Butler Paper Corporations, Chicago.*

Part III.

IN THE previous two articles, Degree of Ink Receptivity and Cushion were discussed in relationship to Printability. We shall now consider the property of Smoothness.

Smoothness, Gloss, Finish—Distinguished

We will not use the often-heard term "Finish" in this analysis since no two of us likely have the same idea of just what Finish is. It is a broad term and cannot be measured in its composite sense. One can, however, measure many of the specific properties which are included under the broad term Finish, such as Smoothness, Gloss and Hardness. In addition to these terms, Finish also includes other properties not so easily defined and which are subjective evaluations on the observer's part and not easily measured.

Smoothness refers to the actual surface contour and is not to be confused with Gloss. Gloss itself is not too easy to define, but is related to the intensity of light reflected from a paper surface at specified angles.

High gloss is not necessarily indicative of a smooth surface. For example, we can apply enamel paint to a surface and obtain a film of high gloss and smoothness. We can further add sand to this paint, apply as before, and still have a film that is very glossy, but obviously far less smooth. It is true, a glossy surface does enhance the brilliance of printing, giving greater "snap" and luster to the printed ink film, but it is the actual smoothness, and not gloss, that determines to what extent the printed image is a true reproduction of what exists on the printing plate itself.

Smoothness of Uncoated Papers

Smoothness will now be considered from the standpoint of paper manufacturing and it begins with the fiber itself. Some fibers by their very chemical nature are easier to form into a flatter sheet than others. Physically considered, shorter fibers will produce a flatter sheet than longer fibers. Fibers from the broadleaf tree (such as aspen and birch) have about one-third the fiber length of those from the coniferous trees (such as pine and spruce), and for that reason are preferred in making smoother surface papers. Fibers can be reduced in length by beating and jordanning and, consequently, the preparation of fibers for paper making can have a very pronounced influence upon the resulting smoothness. The manner in which the fibers are handled on the paper machine wire also influences smoothness. Operating the paper machine at slower speeds enables fibers to felt together more uniformly, whereas at higher speeds, less time is provided for the interwoven structure to take place. Consequently, in the latter case, there is apt to result a more haphazard and less uniform distribution of the fibers within the paper structure, which can be observed as "wildness of formation" and as "hills and valleys" in the surface. While excessive calendering may appear to eliminate "hills and valleys" and produce a smooth surface, an unsatisfactory printing surface results since the "hills" are compacted to a much greater extent than the "valleys", which gives a surface of non-uniform density and also non-uniform receptivity to ink. Such a surface will have a galvanized appearance and

inks printed on such a surface produce a mottled effect. In other words, a flat or truly smooth surface has to be built into the sheet rather than forced into the surface by excessive calendering.

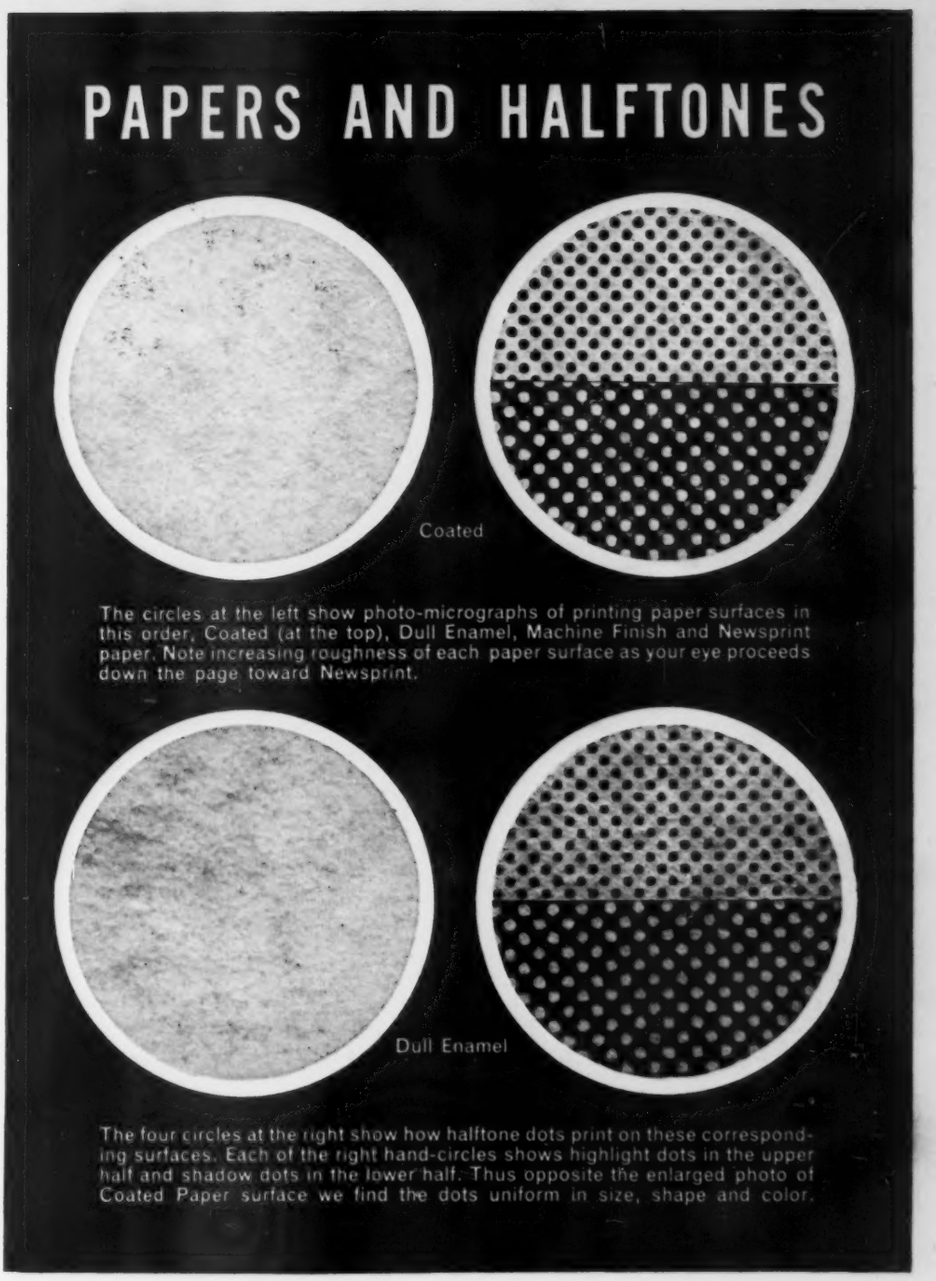
Further operations on the paper machine that contribute to smoothness are compacting of the still wet sheet at the press section, surface sizing and proper weave of felts. To obtain a smoother surface than that obtained by machine calendering, super calendering is used, giving a "super" finish. At this point the affect of fillers or loading such as clay, which are added at the beater, should be mentioned. Loading exists within the fiber structure after paper making and enables the surface to be smoothed out better in the calendering operation. This is one of the reasons why smooth uncoated book papers such as Super, E.F. and Rotogravure contain a relatively high percentage of filler.

Smoothness of Coated Papers

In the case of Uncoated Paper, a maximum smoothness is finally reached after plating or supering and cannot be exceeded because paper, after all, is still an interwoven structure and not a continuous medium in the sense that cellophane or plastic films are. Therefore, to obtain a surface that will have still more complete contact with the printing plate, it is necessary to apply a mineral film or coating over the fiber structure. When we consider that the size of the average halftone dot for 133 line screen is no longer than 0.003 in. and that there are over 17,000 dots per sq. in., it becomes apparent that the slightest irregularity of surface will interfere with the complete contact of the individual dot and the paper surface and that a coated surface is absolutely necessary for fine screen engravings. Mineral coating applied to paper consists mostly of clay with other pigments such as calcium carbonate and with either casein or starch as the common adhesives. A heavier coat weight will produce a smoother resulting surface than a lighter coat weight for any given raw stock. The amount of coating that can be applied to raw stock does have limitations. For example, a 25 in. by 38 in. 80 lb. enamel will have about 30 pounds of coating (on the ream basis) applied to a 50 lb. raw stock. However, a 25 in. by 38 in. 50 lb. enamel cannot have 30 lbs. of coating, otherwise the raw stock would have to weigh no more than 25 in. by 38 in. 20 lb. Physical requirements such as tear, bulk, opacity, etc. do not permit such a lightweight raw stock to be used. Therefore, a 50 lb. enamel will more likely have about 15 pounds of total coating.

Further, the degree of smoothness of coating after calendering is affected to some extent by the amount of sizing in the coating. As the amount of sizing in the coating is increased, it becomes more difficult to calender to a smooth surface. Coated Papers, sized harder for offset, are not as smooth as Coated Papers designed specifically for letterpress.

Simply applying coating to paper does not mean that a highly smooth surface necessarily results because the type of raw stock still reflects in the finished paper, is wildly-formed raw stock with pronounced "hills and valleys" will never produce as smooth a coated surface as one that is well formed. A long fibered raw stock constructed for strength, such as Cover or Tag, will not provide as smooth a coated surface as an ordinary Enamel Book. In other words, compromise has to be made between smoothness and strength necessary for folding and other after-printing requirements.



The circles at the left show photo-micrographs of printing paper surfaces in this order, Coated (at the top), Dull Enamel, Machine Finish and Newsprint paper. Note increasing roughness of each paper surface as your eye proceeds down the page toward Newsprint.

The four circles at the right show how halftone dots print on these corresponding surfaces. Each of the right hand-circles shows highlight dots in the upper half and shadow dots in the lower half. Thus opposite the enlarged photo of Coated Paper surface we find the dots uniform in size, shape and color.

Copyright 1952, American Photoengravers Association

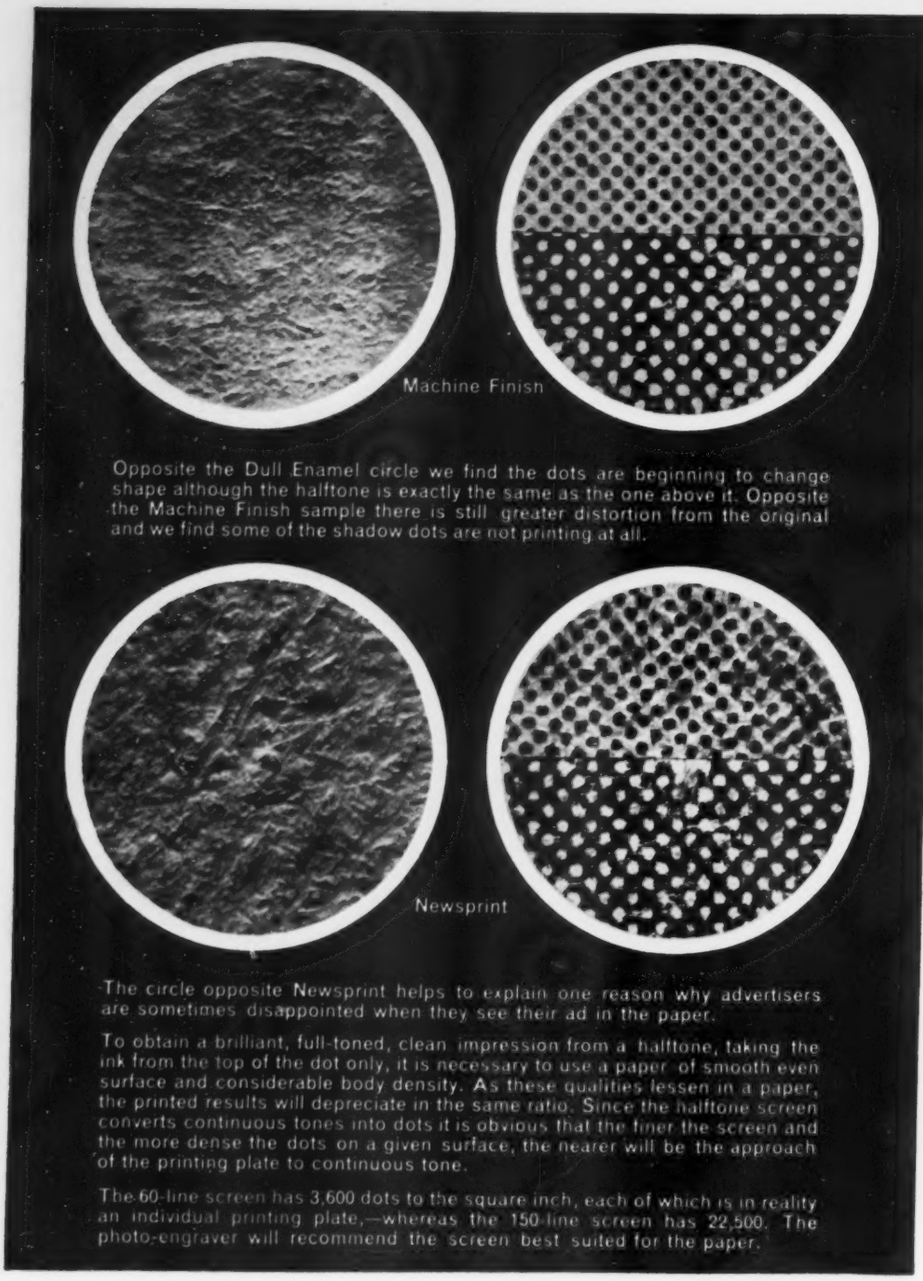
Fig. 3.

Smoothness in Letterpress Printing

Smoothness is very necessary in letterpress printing for faithful reproduction, particularly so with increasing fineness of the halftone screen. The relationship of fineness of screen and paper surface is approximately as follows:

Paper Surface	Fineness of Screen
Newsprint	65- 85
E.F. and M.F.	100-120
Super	110-133
Coated	120-150

Every pressman knows that in order to obtain a better impression on a rough paper, more "squeeze" and ink can be used, but this has limitations leading to "filling in" of halftones, undesirable embossing effects on reverse side and offsetting in the pile. It is smoothness under actual impression that really concerns the printer, and it is here that "cushion" discussed previously becomes very important.


Machine Finish
Opposite the Dull Enamel circle we find the dots are beginning to change shape although the halftone is exactly the same as the one above it. Opposite the Machine Finish sample there is still greater distortion from the original and we find some of the shadow dots are not printing at all.
Newsprint
The circle opposite Newsprint helps to explain one reason why advertisers are sometimes disappointed when they see their ad in the paper.
To obtain a brilliant, full-toned, clean impression from a halftone, taking the ink from the top of the dot only, it is necessary to use a paper of smooth even surface and considerable body density. As these qualities lessen in a paper, the printed results will depreciate in the same ratio. Since the halftone screen converts continuous tones into dots it is obvious that the finer the screen and the more dense the dots on a given surface, the nearer will be the approach of the printing plate to continuous tone.
The 60-line screen has 3,600 dots to the square inch, each of which is in reality an individual printing plate,—whereas the 150-line screen has 22,500. The photo-engraver will recommend the screen best suited for the paper.

Copyright 1952, American Photoengravers Association

Fig. 4.

The effect of paper surface upon the sharpness of halftone reproduction is clearly shown in Figs. 3 and 4.

Smoothness in Rotogravure Printing

Considering rotogravure printing, smoothness is likewise very necessary. The Rotogravure screen is finer than most letterpress screens and very minute low spots in the paper surface cannot completely contact the wells of the cylinder, and, consequently, will not remove the ink from these wells at all or only in part. This is illustrated in Fig. 4. Due to the high pressure between the impression cylinder and rotogravure cylinder, cushion again is essential in helping the paper to be forced into the wells.

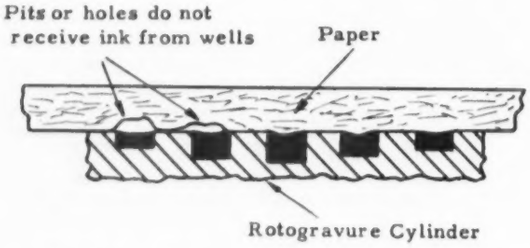


Fig. 5.—Paper Surface Contour and Rotogravure Printing

Smoothness in Offset Lithography

Surface contour of paper for Offset-Lithography is not nearly as critical as for Letterpress and Rotogravure due to the resiliency of the rubber blanket. Nevertheless, abrupt changes in paper surface such as small holes or pits can interfere with reproductions if they are so small in size that the blanket cannot conform to their contour and be forced into them to deposit ink.

Smooth Papers Used Widely

The use of smoother surface papers has increased consistently during the past twenty years, along with progress in the graphic arts. No better example can be given than the tremendous growth of machine coated papers used in the commercial and publication printing industry, not only for Letterpress, but Offset and Rotogravure as well.

Recent Equipment Reports

Miehle Press Installations

The Miehle Printing Press & Mfg. Co. has announced the following recent press installations: *No. 29 Offset* — Universal Press, Inc., Providence, R. I.; LaSalle Litho Corp., New York, N. Y.; Civic Printing Co., Inc., New York, N. Y.; Blade Printing and Paper Co., Toledo, O.; Smyth Printing Co., Marshall, Mich.; Aberdeen Press, Inc., Chicago; Greenlee Co., Inc., Chicago; Sleepeck Offset Corp., Chicago; I. S. Berlin Press, Chicago; Runkle-Thompson Kovats, Inc., Chicago; Interstate Printers & Publishing Co., Danville, Ill.; Allent Lithograph Trade Plant, Atlanta, Ga.; Lynton R. Kistler, Los Angeles; Mercury Press, San Francisco; Leisenring Printing Co., San Francisco; Schuyler Press, Asbury Park, N. J.; Williams & Heintz Litho Corp., Washington, D. C.; Litho Press, Inc., Indianapolis, Ind.; and Allied Printing Service, Inc., Indianapolis, Ind. *No. 76 TC Offset* — Buck Printing Co., Boston; Magill-Weinsheimer Co., Chicago; and R. R. Donnelley & Sons Co., Crawfordsville, Ind. *No. 46 TC Letterpress*—F. A. Owen Publishing Co., Danville, N. Y. *No. 41 SC Letterpresses*—James Bayne Co., Grand Rapids, Mich.; Esterling Printing Co., Detroit; North Carolina State College of Agriculture & Engineering, Raleigh, N. C.; and Burke & Gregory, Inc., Norfolk, Va. *No. 56 TC Letterpress* — Saturday Night Press, Inc., Detroit. *No. 36 Offset*—Kalamazoo Label Co., Kalamazoo, Mich.; and Fine Arts Litho Co., Dallas, Tex. *No. 76 SC Rotary* —W. B. Conkey Co., Hammond, Ind. *No. 41 TC Offset*—Wetzel Bros. Milwaukee, Wis. *No. 61 SC Offset*—I. S. Berlin Press, Chicago. *No. 70 Cutter & Creaser*—United Biscuit Co. of America, Fowler, Ind. *No. 76 Cutter & Creaser* — Fibreboard Products, Stockton, Calif. *No. 56 SC Letterpress*—Chilton Co., Philadelphia, Pa.

The ABC of OFFSET

For Letterpress Printers

Series Two

By George Jos. Lenzer

XVIII—CHEMISTRY AND CHEMICALS

DURING a recent discussion of chemistry and its importance in Offset, this question was raised: "Which branch of chemistry plays the greatest part, Inorganic or Organic chemistry?"

We will not enter into a lengthy discourse of this interesting science. We will, however, provide a brief outline of the fundamentals and principles of this vital subject with a view to clarifying some doubts and misconceptions.

What Is Chemistry?

We know that the physical world about us consists of *matter* and *energy*. All that we see or feel is either matter or a form of energy. Matter is any substance, solid, liquid or gas that fills space. Energy is a force or power that effects change or results from that change.

Physical change is eternal. We know that iron will rust away; solid rock will erode and disintegrate; and that gases permeate the soil and earth and combine to make up the air we breath and the water we drink.

We know too that living matter is born, grows and expands to maturity; declines, then enters a state of decay and decomposition called death. Thus we see and feel the constant and eternal change of the physical world and its components.

Defined chemistry is the science which investigates the properties of matter which undergo change and the energy which causes the change or results from it.

Divisions of Science of Chemistry

The science of chemistry is subdivided into different fields of study and application such as

Descriptive Chemistry is the study of the sources, preparation and characteristics of the hundreds and thousands of varieties of all matter. The field of descriptive chemistry is customarily divided into *Inorganic Chemistry* (which is the study of all the known elements (except carbon) and their compounds); and *Organic Chemistry* (which is the study of carbon compounds, living matter and its fossils or fossilized remains).

Analytical Chemistry is the science of breaking down and separating compounds of matter into their constituent parts for the purpose of identifying the parts.

Qualitative Chemistry is for the purpose of determining the exact nature of the constituent parts of a compound but not the amounts.

Quantitative Chemistry is the study of compounds and to test for the exact amounts of each constituent part being measured.

Physical Chemistry is that field of chemistry devoted to research and discovery of the laws of chemical change and to formulate theories to explain it.

Biochemistry is a borderline science concerned with the area in which chemistry and biology overlap and is the part of chemistry which deals with life, life processes and living matter.

Industrial Chemistry, also known as *Applied Chemistry*, is that field of chemical science dealing with the preparation and formulation of the many everyday products and materials. This branch of chemical science provides us with the many different chemicals and compounds without which the offset printing process could not exist.

Divisions of Chemical Study

Chemical study can be subdivided into specialized groups of individuals (chemists and/or engineers) who deal with particular and specific branches of chemistry, some of which are as follows:

Electrochemistry, pharmaceutical chemistry, metallurgical chemistry, photographic and lithographic chemistry. It is in these specialized fields of chemistry that lithography has its roots.

The combined efforts of these specialists and chemical engineers embraces both fields of chemistry, Inorganic and Organic. Hence, both branches are of equal importance and play equal parts in the fields of chemistry and in offset. This should answer the question asked in the first paragraph of this chapter, XVIII.

Physical and Chemical Changes

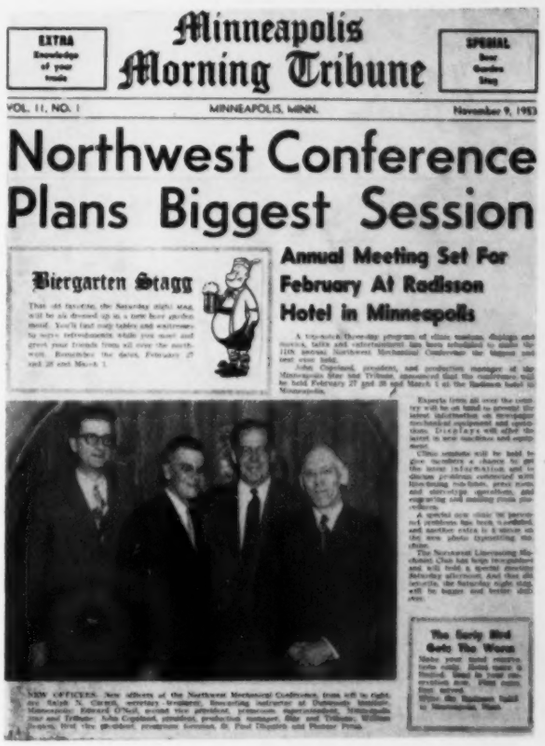
To fully understand the simplest of chemical changes we must learn and recognize purely physical changes. There is a difference between the two which requires definite distinction.

Physical Change—By combining two atoms of hydrogen gas with one atom of the gas oxygen, one molecule of a liquid will result. This transparent, colorless, tasteless, scentless compound is called water which is identified by the symbol H_2O.

Water may be made into a solid, called ice or into a gas called vapor or steam. It may also be observed as rain or snow. In all of its appearances the physical change is noted. In no instance is a new substance formed with new or different properties. It will also be observed that with the same formula H_2O, all of the physical changes can be readily reversed.

Chemical Changes—The honey bee is one of Nature's most respected chemical

(*Continued on Page* 36)


Minneapolis Morning Tribune

VOL. 11, NO. 1 — MINNEAPOLIS, MINN. — November 9, 1953

Northwest Conference Plans Biggest Session

Annual Meeting Set For February At Radisson Hotel in Minneapolis

Biergarten Stagg

Prepare for Northwest Conference — Shown here in miniature is the promotional piece produced in preparation for the Northwest Newspaper Mechanical Conference to be held at the Radisson Hotel, Minneapolis, Minn., February 27, 28 and March 1. Northwest Conference officers shown, from left to right, are as follows: Secretary-Treasurer, Ralph N. Carson, Instructor, Dunwoody Institute, Minneapolis; Second Vice Pres., Edward O'Neil, Pressroom Supt., Minneapolis *Star* and *Tribune;* President, John Copeland, Production Mgr., Minneapolis *Star* and *Tribune;* and First Vice Pres., William Benson, Pressroom Foreman, St. Paul *Dispatch* and *Pioneer Press.*

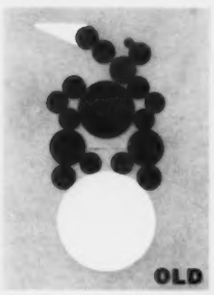
HEINZ
TOMATO
KETCHUP

Patent No. 2-448-975 is a New Inker...

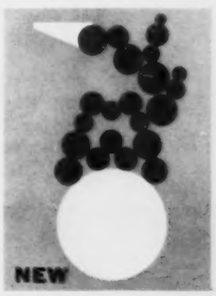
Until recently, almost all offset presses were equipped with some variation of the conventional, storage-drum type of inker.

The first basically-different inking system in decades is the new multi-roll inker on all Harris offset presses. A long period of litho shop testing has proved this inker, with its unique arrangement of rollers, to be superior.

How? In a lot of ways to a lot of people:



The entire inking system, and particularly the long train of small-diameter rollers, puts greater control of print into the hands of the pressman. He can maintain uniform color from gripper edge to tail of sheet. He can get the "sock" of a heavy solid if the job requires it.



Which profits the superintendent . . .

For the production-minded boss, this inker has largely overcome certain old-time bugbears of lithography. The heaviest ink flow is next to the dampeners and successfully combats the emulsification problem. Balanced distribution of ink to the plate has practically eliminated ghosting and one-turn roller streak.

And the owner . . .

It is innovations such as this Harris inker which trim a plant owner's costs and *still* give him better quality to sell. Investment in a piece of equipment with a distinct competitive advantage helps to determine how much his profit will amount to.

To say nothing of the ketchup-maker

Color match from sheet to sheet is especially important on a 24-sheet poster or a label job. But good print quality, plus economy, is what the advertiser always buys. He goes to the shop that can deliver both. Successful competition is made up of just such factors.

The graphic arts profit everyone, and our part in this dynamic industry includes the design and manufacture of offset lithographic presses, rotary letterpresses, power paper cutters, continuous book trimmers, sheet collating machines, multiple-spindle paper drills, litho-chemicals, and other fine graphic arts equipment. Consult Harris-Seybold in all principal cities, or at 4510 East 71st Street, Cleveland 5, Ohio.

HARRIS-SEYBOLD

fine graphic arts equipment . . . for everybody's profit

Harris Model 258, two-color, 42 x 58" offset press at Gugler Lithographic Company, Milwaukee. Hedrich-Blessing photo.

ABC of Offset

(**Continued from Page 33**)

engineers and builders. It manufactures within its own body a wax from which it builds the honeycomb in which the bee stores the honey produced by the assimilation of nectars gathered from the flowers and blossoms of the garden and field.

The honey itself or in combination with other substances is a food for the nourishment of man. The process of changing nectar to honey, and from honey to food is progressive change in substance and properties which cannot readily be reversed.

Man can combine cotton string with molten beeswax and thus produce a candle. The beeswax remains beeswax and the cotton string remains cotton string. If by re-melting the beeswax, the candle will disappear, while the beeswax and cotton string still remain. But if, instead we burn the candle, the candle disappears as does also the beeswax and the cotton string.

Here again we see that certain substances can be given new form and character without changing the substances and under other conditions, as with combustion, effect the change from beeswax and cotton string to ash and gas. All through the periods of change it is evident that the processes cannot readily be reversed. The honeycomb can never be rebuilt and after combustion, the beeswax can never be restored to its original constituent parts.

These examples illustrate and prove that chemical changes are changes that result in new substances with new properties.

The principles of physical and chemical change are basic in all branches of offset reproduction from the camera, through platemaking and press operation, as will be demonstrated in subsequent chapters of this series.

Chemical Correction of Halftone Positive

Chemicals—In photographic chemistry we know that the metal, silver, when treated with nitric acid is changed to a salt called silver nitrate. This salt when combined with iodides and bromides is changed again into light sensitive silver halides. The light sensitive silver halide when combined with a gelatine colloid forms the emulsion of the photographic plate or film.

After exposure to light and with subsequent treatment with other chemical solutions, those portions of silver halide unaffected by the light are dissolved out of the emulsion, while the remaining halides are reconverted to metallic silver.

After the reconversion has been effected, the color of the silver is changed from the natural white to black thus making the photographic image visible to the eye. It is this blackened silver positive image which we propose to correct by further chemical treatment and manipulation.

Reduction of the silver image is usually the first corrective employed by the correctionist or dot etcher. In continuous tone images, reduction means the lightening of the silver image, rendering it more translucent and less opaque to the transmission of light.

With the halftone image, reduction means the bleaching or effecting a reduction in dot size by causing portions of excess silver to be expelled from the gelatine emulsion. Hence the terms *etching* and *dot etching*.

At no time is the silver destroyed but rather subjected to reconversion from metallic silver to a water soluble silver salt. The compounds utilized in effecting these chemical changes are classified as (1) Cutting reducers; (2) Proportional reducers, and (3) Flattening reducers. These reducers are obtained by combining specific chemicals which are known to act upon the silver in certain definite ways. Some of these chemicals are listed as follows:

Ammonium persulphate
Ammonium thiocyanate
Ammonium sulphocyanate
Ceric sulphate
Ferric ammonium sulphate
Ferric chloride
Ferric oxalate
Hypo (hyposulphite of soda)
Iodine
Potassium bromide
Potassium cyanide (*poison*)
Potassium ferricyanide
Potassium iodide
Potassium metabisulphite
Potassium permanganate
Sodium chloride (salt)
Sodium sulphite
Thiourea

Acids—Citric, oxalic and sulphuric.

Canton (O.) Newsprint Warehouse—Lifting an 1800 lb. roll of newsprint into place in the new Canton, O., *Repository* newsprint storage plant is Tony Sigmond, who has been handling the company's newsprint since 1928. The new warehouse, located at Thompson Ct. and 13th St., S. E. along the Nickel Plate R. R. right-of-way, was completed in June. Shortly afterward, Sigmond began the job of storing newsprint in the building. Former newsprint storage facilities of the *Repository* included McKinley Storage, by whom Sigmond is employed, and other privately-owned warehouses. In the new building, each car of newsprint is stacked three rolls high, two rolls wide and six rolls deep. The storage plant is a one-story, fireproof concrete block and steel building with approximately 10,600 square ft. floor space. Its building cost was $60 thousand.

Formulas for Reducers

When compounding photographic formulas it is important to mix the chemicals in the order given unless stated otherwise.

1—Cutting Reducers—Chemicals most commonly used in compounding solutions to suit the requirements of cutting reducers are potassium ferricyanide;

potassium permanganate; and iodine-iodide and cyanide.

(A) Farmer's Reducer is a two-solution preparation classed in the cutting reducer category, but actually tending to bleach the silver and to cause harmful stains of yellowish color.

Solution 1:
Sod. thiosulphate (hypo).....16 oz.
Water (H_2O).....64 oz.

Solution 2:
Potassium Ferricyanide..... 8 oz.
Water (H_2O).....64 oz.

For use, mix:
Solution 1..... 4 oz.
Solution 2..... 1 oz.
Water.....32 oz.

The foregoing is a general recommendation which may be modified or altered to meet specific requirements. For example, the amount of water may be increased in order to slow down the speed of reducing or cutting action.

Farmer's reducer lacks keeping qualities and must be replaced frequently because of its rapid deterioration. Adding a little common salt (sodium chloride) to the ferricyanide solution will prolong, to a certain extent, the lasting or keeping qualities of this reducer.

(B) Iodine-iodide-cyanide reducer is also a two-solution reducer, recommended as being the best cutting reducer for dot etching or reduction of the halftone dot size.

Stock Solution 1:
Water.....48 oz.
Potassium iodide..... 8 oz.
Iodine (resublimed)..... 4 oz.
Water to make..... 1 gal.

Stock Solution 2:
Potassium cyanide.....16 oz.
Water to make..... 1 gal.

To use, mix equal parts of stock solutions 1 and 2 and add from three to five times the equal amounts of water according to the effect required or desired.

Cyanide is a deadly poison and must be treated with respect and extreme care and caution.

It finds wide use because negatives and positives properly treated, will be cleaner, clearer and most desirable for platemaking.

Since proportional and flattening reducers find their greatest use and application with continuous tone work, we will confine our corrective procedures to the use of Farmer's and the cyanide-iodine-iodide compound solutions.

(*To Be Continued*)

Glenn C. Compton has been appointed Exec. Secy. of the Advertising Typographers Assoc. of America, Inc., and Exec. Secy. of the New York Group of the Association, according to a joint announcement by Carl H. Ford, The J. W. Ford Co., Cincinnati, ATA President, and Harry J. Lattmann, Chris. F. Olsen, Inc., New York, N. Y., Chairman of the New York Group. Compton will assume his new duties on February 1, following completion of his present assignment with the Citizens' Advisory Council of the Senate Post Office and Civil Service Committee. Until recently he was director of public relations of Printing Industry of America.

Glycerine

in the Printing Industry

By E. SCOTT PATTISON*
**Glycerine Producers Association*

IT IS probable that the ink used to print this article was transferred to the type by means of composition press rollers made with glue and glycerine. It is also probable that the ink itself contains a glycerine-utilizing synthetic resin as an important component.

These uses—and there are many more—point to the fact that glycerine is one of the basic raw materials of the printing industry. Statistics show that between five and six million pounds of glycerine are used each year in the production of printers' rollers, printers' supplies and printing inks. In addition to this large volume, substantial additional quantities of glycerine are consumed by the printing industry in the form of the synthetic resins used to formulate inks, overprint varnishes and other requisites.

The status of glycerine as a major industrial raw material stems from its unique combination of physical and chemical properties. Because of its chemical configuration, glycerine or glycerol (as it is known technically) can enter into many chemical reactions to form numerous derivatives. Among the most important of these compounds are ester gum, made by reacting glycerine with rosin or rosin acids, and the alkyd resins, which result when glycerine is combined with certain organic acids and suitable modifying agents. Ester gum is considered to be the first of the modern synthetic resins, while the alkyds are said to be the most adaptable of the synthetic products.

Physical Characteristics

However, long before glycerine's chemical properties were appreciated, this clear, heavy fluid had many well-established uses based on its valuable physical characteristics. Glycerine, for example, has long been used as an anti-freeze agent. It is also an excellent heat-transmitting medium and it is often used as a pressure-transmitting fluid. Glycerine is an excellent solvent for many substances, including dyes. Because of its viscosity or body it is also a superior suspending medium for finely divided substances that do not go into solution, such as pigment particles.

Hygroscopic Action

One of the most important characteristics of glycerine is its hygroscopic or humectant action, by which it is able to attract and retain essential moisture. This effect, which is tied up with glycerine's efficient plasticizing and softening action, is widely utilized to combat excessive drying with subsequent hardening, brittleness, cracking and other undesired results. Moreover, because of its high boiling point and low vapor pressure, glycerine "stays put" and continues to serve effectively under a wide range of conditions.

It is this characteristic that accounts for the important place held by glycerine in the production of composition rollers. Such rollers consist essentially of tough, flexible, resilient compositions based on various proportions of animal glue, glycerine and water. Various other ingredients, often classed as trade secrets by roller makers, are sometimes included to impart certain desirable properties.

Glycerine As a Plasticizer

Glycerine is the material that plasticizes the roller, keeping the composition soft and pliable. It is the presence of glycerine that prevents the glue from drying to form hard, brittle, glass-like pieces. It has also been pointed out that the ability of glycerine to absorb moisture and keep a roller tacky is one of its advantages in roller making.

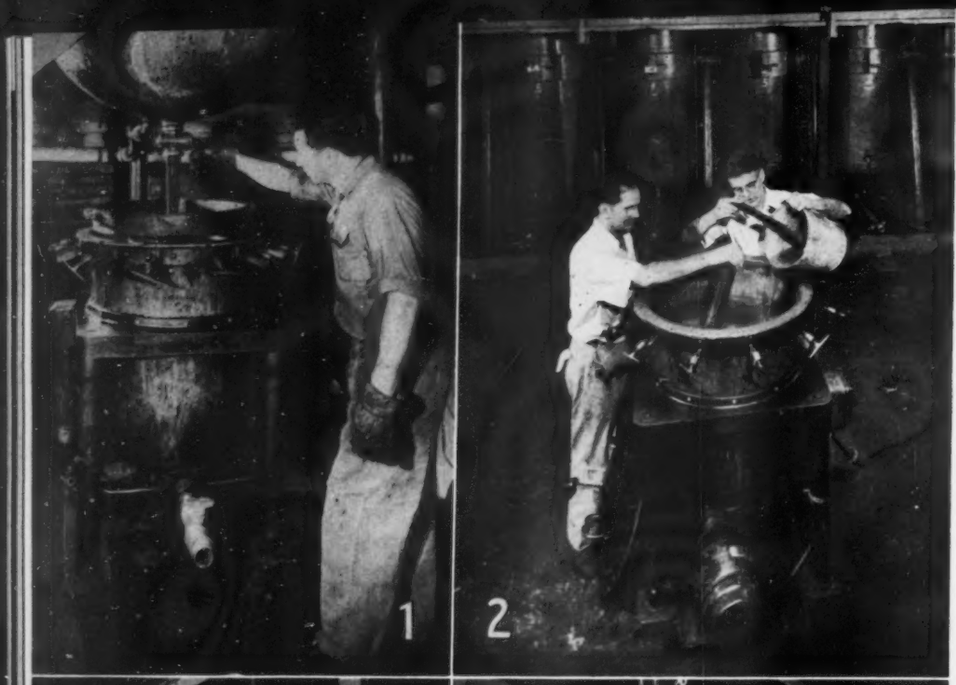
It is said that M. F. Bingham, son of Samuel Bingham (a pioneer in the roller industry) introduced the use of glycerine in the making of printers' rollers, replacing the old-time molasses or syrup. Since then, glue-glycerine composition rollers have become standard equipment for the transfer of ink from the fountain and to distribute it evenly and smoothly to type, cuts or plates.

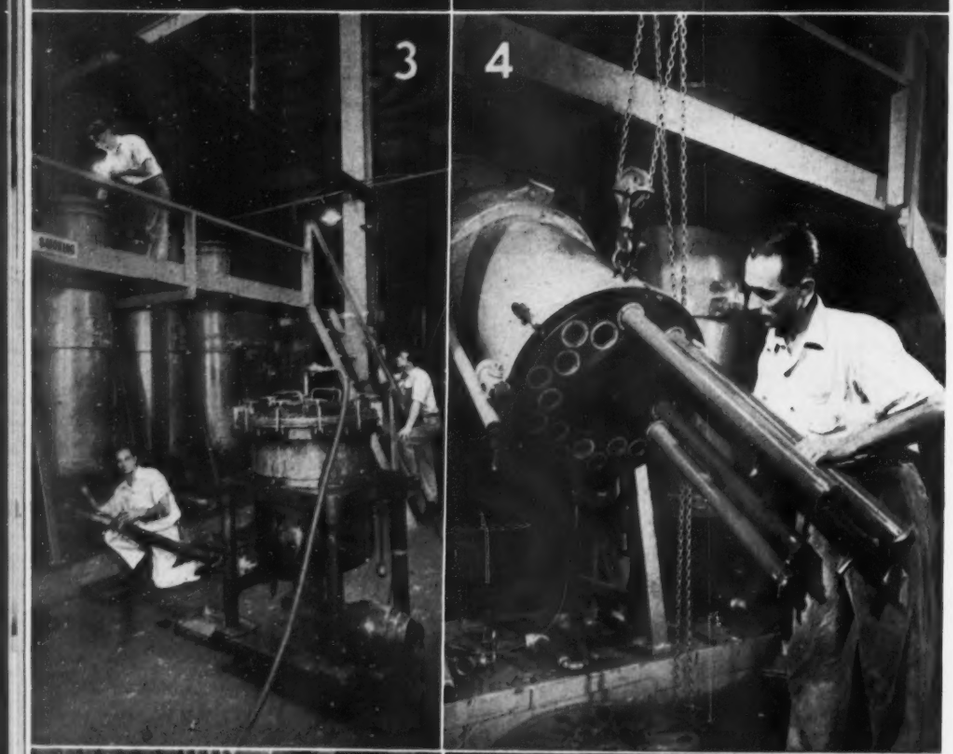
Glue-Glycerine Rollers

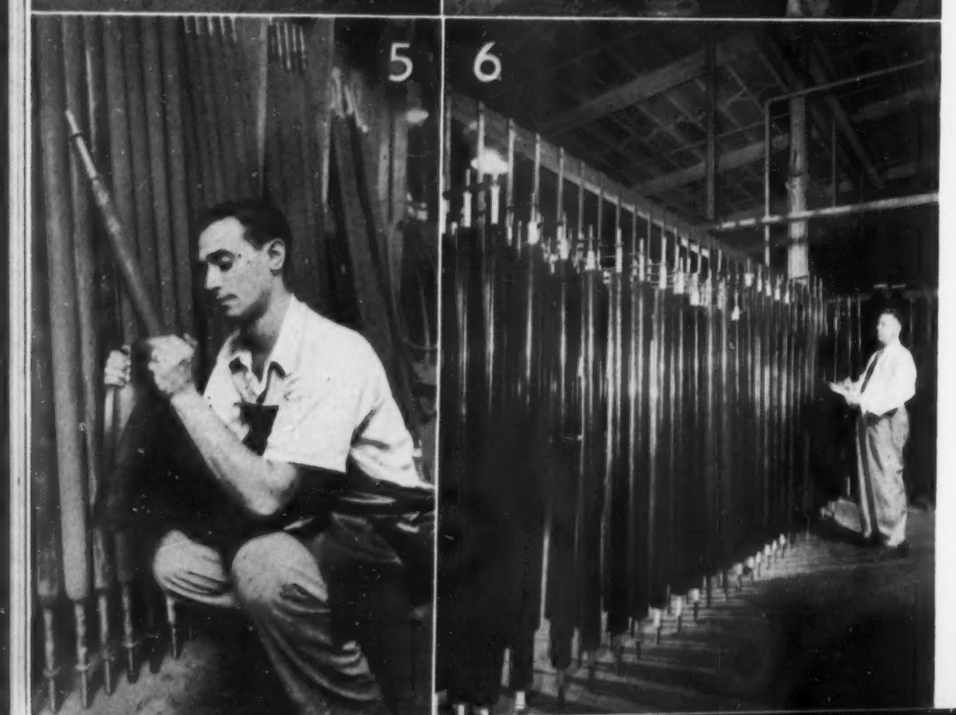
Today even with new developments, the glue-glycerine composition roller is generally acknowledged as providing excellent printing quality. Its many advantages include: (a) Versatility over a wide range of printing work, (b) Provides a natural, inherent "suction" for the ready transfer of printing inks, (c) Relatively low cost with long working life, and (d) Formulations easily adapted to provide the desired degree of toughness, resiliency, elasticity, softness, and melting point under a wide range of operating and seasonal conditions.

Considered broadly, (*1*) ingredients of composition rollers are glue, glycerine and water.

Obviously, the ratio of glue to glycerine will be determined by a number of factors. Humidity is an important consideration in the formulation of the composition roller. Thus, in extremely dry, warm air the roller will become hard, while in extremely moist air it will tend







to soften. For this reason the roller manufacturer uses less glycerine in the composition during the summer when pressroom humidity is often quite high. Conversely, more glycerine is present in the roller used during the winter, when a heated pressroom is marked by dry air.

Other composition rollers include non-meltable rollers and composition coated rollers. The non-meltable rollers, in addition to the standard glue-glycerine mixtures, contain special ingredients to toughen the material and increase its melting point. To make such a composition, a small quantity of a tanning agent, such as formalin or one of the formaldehyde - yielding compounds (*e.g.* paraformaldehyde or hexamethylenetetramine) is added to the glue-glycerine mixture just before the casting of the roller. This results in a mild tanning effect, which markedly increases the melting point of the composition, inhibiting "shortness" or cracking.

Roller manufacturers strive to retain as much as possible of the printing qualities of the standard glue-glycerine composition rollers along with the maximum of non-meltability. Where composition rollers are required on speed presses, these non-meltable rollers give satisfactory results.

Non-meltable Rollers

A new approach to the manufacture of non-meltable printing is offered in Conklin's (*2*) patent issued last year. He employs a special mixture for coating

Making Glue-Glycerine Rollers

(All photos taken in roller manufacturing plant of Bingham Brothers Co.)

Fig. 1.—Glue and glycerine mixture is poured from the mixing kettle into forcing kettle.

Fig. 2.—To produce non-melting composition for roller surfaces, other chemicals are added to glue-glycerine mixture.

Fig. 3.—The glue-glycerine mixture in forcing kettle (right foreground) is being charged into one of the roller mold cylinders at Bingham Brothers Co. plant. These are called guns. The cylinders contain roller molds ranging in diameter from ½ in. to 10 in., in length from 24 in. to 100 in. The number of molds inside the cumbered cylinders ranges from 15 to as many as 30.

Fig. 4.—The rollers are removed from the gun molds after glue-glycerine mixture (introduced as a liquid) has set for about 2½ hrs.

Fig. 5.—An expended roller, returned for re-coating, is being stripped. Roller surface specifications vary due to printing job requirements and are also affected by seasonal conditions. (Rollers used in warm weather are too hard for winter usage.)

Fig. 6.—Variety of rollers for printing and offset-lith use are kept in this stockroom at Bingham Brothers Co. plant.

glue-glycerine printing rollers; the mixture consisting of hexamethylene-tetramine, lanolin and glycerine. The coated roller is stored for a month under specified conditions to allow the coating to penetrate the glue-glycerine composition and form a non-meltable shell.

This procedure is somewhat similar to the method used for making the so-called coated rollers. In this process, the rollers consist of a thin coating of glue-glycerine composition over a rubber base securely fastened to the shaft. Considered an outstanding advance when first introduced, this type of roller has the advantage of being readily renewed when the composition coat is worn or marred. When the roller begins to show wear, the composition surface is removed with hot water, without affecting the base material. The roller is then placed in a resurfacing machine and within a short time it is given a new, fresh coating of glue-glycerine composition.

A rather interesting procedure for making a printing roller has been developed by Hill (*3*). In his process, a mixture of animal glue and a high proportion of glycerine is melted at about 160 deg. F. The mixture is then charged into a roller mold and cooled to 60 deg. F. After a layer of solidified composition about ¼ in. thick is formed on the mold wall, the rest of the still-liquid mixture is pumped out and replaced with air-beaten composition, after which the mold is chilled. This results in a satisfactory roller with a base of air-entrained, resilient composition and a solid glue-glycerine surface.

Some European printers (*4,5*) use rollers made with glycerine-plasticized mixtures of starch and calcium chloride. Said to be satisfactory and efficient, rollers of this type are resistant to temperatures ranging from 30 deg. to 100 deg. C. Mixtures of starch, urea, glycerine and magnesium chloride are also employed for making printing rollers (*6*).

Glycerine-utilizing alkyd resins likewise find application as roller forming materials. For example, a printing roller developed by Friendlander (*7*) consists of the conventional core surrounded by a layer of vulcanized rubber and a coating of polychloroprene containing from 80% to 92% of an alkyd resin made by the reaction of glycerine with adipic acid. Spencer (*8*) uses combinations of rubbery plasticized polyvinyl chloride and ester gum to make printing rollers.

Glycerine in Collotypy

In the collotype or photogelatin process, which is used when fine reproduction and high quality work are desired, glycerine serves as the "etching" agent for the printing plate. In this procedure, glass plates are coated with bichromated gelatin and then baked in an oven to form a reticulation or grain to which the ink will subsequently adhere. The plates are then printed under normal continuous tone negatives. After the surplus bichromate is washed out, the plates are "etched" with a solution of glycerine and water. This moistens the unhardened areas and causes them to swell while the hardened shadows remain sunken and dry.

When the plates are inked with a rather stiff, greasy ink, the parts that are moist from the glycerine-water treatment will repel the ink, while the dry shadows will retain a maximum amount. Impressions are obtained under considerable pressure. From time to time fresh applications of the glycerine-water "etch" are needed in order to prevent the plate from drying out with subsequent loss of highlights. The hygroscopic properties of glycerine make it possible to produce a large number of prints before redampening of the plate is required. In this way glycerine contributes to both better quality and higher production rates.

It is understandable, therefore, why glycerine is retained as an important aid when improvements are made in collotype technique. This was the case when the rotary method and the use of aluminum plates replaced the older flatbed method and glass plates to support the gelatin film. This rotary process, which has more than trebled production without any sacrifice in quality, makes use not only of the glycerine-water etch solution, but also of a hardening solution containing glycerine and formaldehyde (*9*).

Swelled-gelatine Image Hardening

Glycerine is also employed in a recently-developed experimental process (*10*) in which the gelatin image is hardened to withstand pressures of 2 T. per sq. in. required in making halftone reproductions in newspaper mats. In this case the hardening of the halftone image is done with a formaldehyde solution containing tannic acid and glycerine.

Glycerine in Planography

The effectiveness of glycerine for repelling greasy inks is, of course, extensively used in other lithographic processes. Here, too, new developments and improvements serve to extend the uses of glycerine and to reaffirm its value in

'Like the End of the World'

Quake Disaster Mounts

Air Force Daily

France's Turmoil Increases

American Owned Tabloid Printed Daily in England

During the summer, Augustus E. Giegengack (former U.S. Public Printer) was elected Vice Pres. and Director of The Army Times Pub. Co. at 3132 M St., N.W., Washington 7, D.C. He is in charge of all printing activities including other managerial duties. The company publishes, *Army Times*, *Air Force Times*, *Navy Times* and *Air Force Daily*. The newest publication undertaken by the company on June 14 is the *Air Force Daily*. This is a tabloid size paper, 12¼ in. wide by 18 in. It is printed by *The Times* in Printing House Sq., London EC4, England. The paper usually consists of 16 pages published five days a week—Monday to Friday. It is distributed to United States military installations in Great Britain and abroad. The paper maintains its own editorial staffs. Included are American home news, international affairs, funnies, cartoons, crossword puzzles, and several American commentators' columns, such as Drew Pearson, together with late sports news. Stereotype mats and photographic material are flown from the United States at regular intervals. The *Air Force Daily* is excellently printed. Circulation is in excess of 20,000 copies daily.

Straightmatter composition (9 pt. Times New Roman) is done on Linotypes at *The Times* plant in London. The paper heading is set in Sans Serif Bold. Heads are mostly set in Bodoni Bold caps and lower case with variation in Bodoni Bold Italic. An occasional streamer head is set in 72 pt. Sans Serif Bold, with secondary news heads in 36 pt. Sans Serif. It is explained in the masthead that *Air Force Daily* is not an official publication of the U.S. Air Force. It is a private project sponsored by a few Americans one of which is Augustus E. Giegengack.

these planographic methods (*11*). For example, a planographic repellent composition developed by Van Dusen (*12*) consists of an aqueous solution of glycerine, monoammonium dihydrogen phosphate and a water-soluble aldehyde. Of related interest is the ink-repellent aqueous dampening solution of glycerine, sodium sulfate, boric acid and gum acacia prepared by Finno (*13*) for use with his new inexpensive cellulosic planographic printing plate.

Finno (*14*) has also developed combined ink scum-removing and grease-base ink hardening etching compositions for planographic printing plates. Such solutions, which impart permanency to the printing plate image, are based on the following formula:

Glycerine	1 to 64 oz.
Sodium sulfate	1 to 8 oz.
Sodium thiosulfate	1 to 4 oz.
Citric Acid	1 to 4 oz.
Water, to make	1 gal.

Static and Glycerine

Static electricity, which is another pressroom headache under low humidity conditions, may also be combatted with glycerine. Static causes the paper sheets to cling tightly together in the pile. This prevents air from reaching the ink and upsets the drying schedule. Such exclusion of air also increases the possibility that the sheets will stick to each other. A temporary remedy is to wipe the cylinder top sheet with glycerine. The glycerine remains damp so that the sheets are moistened as they pass through the machine.

It is also common practice, in combatting static, to place wiping cloths saturated with glycerine around the press. Keeping the feeder and delivery tapes moist with glycerine is another well established method for avoiding static trouble.

Glycerine is similarly useful in solving the problem of register, always a serious consideration where static is involved. It has been found that wiping all the surfaces with a glycerine-treated cloth serves to eliminate this trouble. Moistening conveyor tapes with glycerine also helps.

Feeding Help

There is one use for glycerine that almost every experienced printer learns early in his apprenticeship. Moistening the fingertips with glycerine helps to increase speed and improves efficiency when feeding paper into the press and gathering printed forms. The glycerine is generally kept near at hand in the form of a glycerine-soaked sponge or cloth. However, a number of devices, some of them quite ingenious, have been suggested to improve the availability of glycerine for this purpose. One such product, called Glysmo, is provided in the form of a solidified glycerine to facilitate the handling of paper.

Printing Ink Manufacture

Glycerine and the synthetic resins made with it are important raw materials in printing ink manufacture. Although this is a story in itself, it should be noted that each year increasing quantities of glycerine, ester gum and alkyd resins go into the production of printing inks. Also noteworthy is the increasing utilization of glycerine and especially alkyd resins in the formulation of overprint varnishes. Of interest in this connection are recent patents (*15*) in which are described the use of glycerine and alkyd resins in improved finishing varnishes suitable for application over wet lithographic ink.

From the foregoing it is evident why glycerine is considered to be one of the valuable raw materials of the printing industry. It would hold an important place in the printing world if only for its role in composition printers' rollers. However, its other varied uses make it valuable to the pressman.

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Unusual Construction for Unusual Site

CONSTRUCTION of a $6 million, eight story building project engineered specifically for the planning, creation and production of greeting cards got underway in Kansas City, Mo. in July. The plant will become the new general headquarters of Hallmark Cards, it is expected in January 1955.

The ultra-modern building is being erected on a 7½ A. plateau near the heart of the Kansas City business district and adjacent to the present Hallmark main plant. The two buildings—with a combined floor space of more than 1,000,000 sq. ft. will be connected by a double-deck, over-the-street bridge.

The site of the new building is a rocky area—thought to have been so unsuitable for construction that it had remained undeveloped despite its ideal location. Joyce C. Hall, President and founder of the Hallmark company, said: "We knew that it would be economically unsound to level the site—so we decided to incorporate the ruggedness of its terrain in our plans. We are building over and around the mound, thus minimizing the amount of excavation that must be done."

Greeting Card Plant Gotten Underway—President Joyce C. Hall (center) inspects a one-sixteenth scale model of the ultra-modern plant and general headquarters for Hallmark Cards to be built in Kansas City, Mo. Construction got under way in July. The $6 million structure will be connected by an over-the-street, two-level bridge to the existing Hallmark plant, shown at the right. Albert Peterson (left), manager of the Kansas City offices of Welton Becket & Associates, architects for the company, points out a rooftop feature, while Lynn Bauer, head of Hallmark's buildings management department, looks on.

NEWS ITEMS

MacGREGOR

MacGregor Retires—Charles D. MacGregor retired from active association with the Curtis Publishing Co. at the end of the year, after 51 years' service in the Graphic Arts. Mac, the Scot, has been an executive of the Curtis Publishing Co. since 1919. He has been assistant to the Mfg. Supt., Asst. Supt., and Mgr. of the Magazine Press Div. MacGregor was also one of the originators and developers of the heatset process or quick-drying method for multicolor and high-speed rotary printing responsible for the present-day 5 and 5 publication printing. Because of the many requests and suggestions of Mac's friends, he is going to make himself available, after a vacation, for consulting work on high-speed publication problems with engravers, printers, and advertising agencies. MacGregor was sent to Europe by the Curtis Publishing Co. in 1926 and studied gravure printing at the Societé Arts de Gravure in Geneva, Switzerland, and in Germany and France. Upon his return, he was appointed manager of the Gravure Corporation, at that time a subsidiary of Curtis Publishing Co. Before joining Curtis Publishing in 1916, Mac was associated with the John C. Winston Co. in Philadelphia, where he was employed after completing his apprenticeship at George Barrie & Sons, Philadelphia engravers and publishers. As a young man, MacGregor played professional baseball and basketball in the old Eastern League. He also played golf, and served as Advisory Coach to the Philadelphia Marine Base team in 1917, and to the University of Pennsylvania basketball team in the championship years of 1933-39.

Sinclair & Valentine Co. has announced appointment of Walter Meserve to its sales staff. According to Vice Pres. H. J. Soriano, Meserve will be assigned to the firm's Boston office. He is a graduate of Harvard University and has been associated with IPI Div., Interchemical Corporation, and Charles Hellmuth Printing Ink Corp. in the Boston area.

WARD

Establishment of seven regional sales and service offices for American Type Founders web-fed printing presses has been announced by Robert N. Ward, Vice President and General Mgr., Mt. Vernon, N. Y., Div. The decentralization move was said to be in keeping with the policy of expansion which the company adopted a year ago, and coincides with the opening of the 112,500 sq. ft. plant in Mt. Vernon. The offices, their service areas, locations and chief personnel are as follows: New England, 210 South St., Boston 11, E. G. Stacy; metropolitan New York and New Jersey, 230 Sandford Blvd., Mt. Vernon, N. Y., W. Howell Lee; middle Atlantic and Eastern coastal states, 13th and Cherry Sts., Philadelphia 7, Fred A. Hacker; central southern and midwestern states (two offices), 519 W. Monroe St., Chicago 6, Edward G. Ryan and Andrew P. Monroe, Jr.; Pacific coastal and Rocky Mountain states, 360 Golden Gate Ave., San Francisco 2, Calif., Henry G. Webendorfer. The seventh office, for the southwestern states, will open in the near future either at Dallas, Tex., or St. Louis, Mo., according to Ward.

The Mid-Atlantic Mechanical Conference program is being developed by PNPA General Mgr. Theodore A. Serrill as program chairman with the assistance of a committee composed of New Jersey, Delaware and Pennsylvania mechanical executives. Allen C. Spurgeon, Uniontown (Pa.) Newspapers, Inc., has been selected conference chairman. Conference co-chairman is Jules L. Plangere, Mechanical Supt., Asbury Park (N. J.) *Press*. Sol L. Swartz, Mechanical Supt., Harrisburg (Pa.) *Patriot-News*, will preside at the combined engraving, pressroom and stereotype department session. The Mid-Atlantic Mechanical Conference will be held at the Penn Harris Hotel, Harrisburg, Pa., on March 18, 19, 20.

LENZ

Earl C. Lenz has been elected Vice Pres. of sales and advertising for Morningstar, Nicol, Inc., according to President George J. Muller. Lenz located at the firm's executive offices in New York in January. He has been with the Paisley division for 21 years, serving as Vice Pres. and General Mgr.

BROWN

Alan McC. Brown is now a sales representative for the Geo. H. Morrill Co., Div., of Sun Chemical Corp., according to announcement by A. H. Solberg, Morrill's Chicago Midwest Mgr. Brown succeeds A. G. Caffer of the St. Louis office, who has been with the Morrill organization for 30 years and is now retiring under Sun Chemical Corp.'s Retirement Plan.

Gutwein's First Management Seminar Successful—Representatives from 10 printing companies participated in the three-day seminar conducted by William F. Gutwein, of Wm. F. Gutwein, Inc., at the Brown Hotel, Louisville, Ky., Dec. 7, 8, 9. The program was specially designed to give junior executives in union and non-union plants information, guidance and training to help them fulfill their responsibilities.

Left to right those participating were: Ira Scott, Mgmt. Trainee, Gardner Board and Carton Co., Middletown, O.; Jack W. Maclear, Chief Acct., Bradford-Robinson Printing Co., Denver Colo.; Charles Porter, Personnel Mgr., The Inland Press, Inc., Chicago; Russell Appleby, Supv. Production Control, Diebold, Incorporated, Canton, O.; Robert Reid, Louisville, Ky.; C. A. Severin, Pres., Hall Litho Co., Topeka, Kas.; Wm. F. Gutwein; Richard Robinette, Asst. Supt., Acme Lithographers, Wichita, Kas.; Charles E. Dunn, McCormick-Armstrong Co., Inc., Wichita, Kas.; George Ossman, Fetter Printing Co., Louisville, Ky.; David R. McKiernan, Vice Pres., George F. McKiernan & Co., Chicago; J. Thurman Diggs, Mgr., Byron S. Adams, Washington, D. C.

POWELL

Announcement of Joseph W. Powell, Jr.'s election as Vice Pres. for finance of Harris-Seybold Co., effective Dec. 1, was made recently by George S. Dively, President. Since 1946, Powell has been vice president of American Research and Development Corp., Boston, a firm specializing in the financing and development of new industrial companies. The financial vice presidency is a newly created position. Powell is a graduate of Princeton University and the Harvard Business School.

(*Continued on Page 46*)

Combination Plant Enlarged and Revamped for Smooth Production

By ROBERT ROYDEN GREER*
Printing Engineer, Los Angeles.

THE publisher of the San Fernando (Calif.) *Sun*, a combination weekly newspaper and commercial printing plant, with the assistance of the writer, recently undertook a complete study of production operations while changing from flatbed to rotary newspaper press printing. The study uncovered a need for enlargement of plant facilities and installation of considerable equipment to meet production schedules and provide a more versatile range of operation. A number of changes were also made in all departments of the expanded plant for improvement of workflow, attaining better working conditions and consolidation of equipment.

In scanning the available floor area provided, as shown in the accompanying miniature layout, it will be apparent that it is the engineer's task to arrange the equipment in the existing space. This is to be done by keeping in mind that best workflow must be secured. Suggestions for installing new equipment and/or modification of existing equipment must also be made. In planning the plant, of course, the engineer must keep in mind that the work must be produced at the lowest possible expense.

The L-shaped addition shown at extreme right in the accompanying floor plan layout accommodates the stereotype department, newspaper pressroom, mailroom, commercial bindery, shipping and receiving departments, newsprint storage area and men's and women's washrooms. To relate the different changes which took place, we will begin with the News Composing Room.

Improved Composing Room

The Linotype machines were positioned at a 20 deg. angle as shown in the layout to provide better work room for the operators in relation to dump banks and magazine racks. A magazine rack was placed centrally near the machines. It holds full size and split magazines along with sorts trays. Teletypesetter equipment is to be installed on the linecasting machines to cope with the shortage of experienced operators in that area.

Other improvements were added to this area of the department, such as posture chairs for machine operators, copy tables of uniform design and the adoption of a proper copy markup system. Small parts such as matrices, mold liners, etc., are inspected periodically for wear and damage under an organized maintenance program.

Another matrix cabinet was added to the Ludlow equipment in anticipation of increased commercial printing production. A slug surfacer was also installed to replace the time consuming burnishing cloth used before. Still another improvement was a slug stripper. The stripped slugs are used in conjunction with base cast on a newly installed Model F Elrod.

Increased space was allotted for correcting, makeup and proving. Galley cabinets were increased to provide storage space for standing ads and overset matter. An important addition was a rotary mitering machine which was mounted on a strip material cabinet.

Page Makeup

In the news composing room some pages are made up on trucks while parts of pages and large ads are made up on the correction banks convenient to spacing material. Page makeup directly on eight trucks was facilitated by building an A rack or inverted V on which the galleys containing the slug composition could be laid (*9* in accompanying diagram). The rack is mounted on two uprights centrally above the two rows of trucks and resembles a correction bank. Page trucks can be wheeled to either side and partly underneath the rack and close enough for the makeup man to reach material easily on the galleys. The rack also carries a sufficient supply of leads, slugs, cutoff rules, dashes, etc., for makeup operations.

It was suggested that makeup of the larger ads could be better handled on the correction banks permitting good access to spacing material. These are also convenient to type cases, galley storage, the Ludlow saw, miterer and proofpress. The positioning of good lighting at this point was not overlooked.

Reducing Worker Fatigue

Fatigue is an important factor in makeup. Everything that can be made to reduce wear and tear upon the worker will pay its just reward. Walking, hunting, confusion, together with improper lighting all combine to cause errors and delayed deadlines. The makeup department is one of the trouble centers when not engineered along modern lines.

Rubber floor matting was placed in the aisles and work areas of the composing room to reduce worker fatigue. This also serves as protection against damage to dropped material.

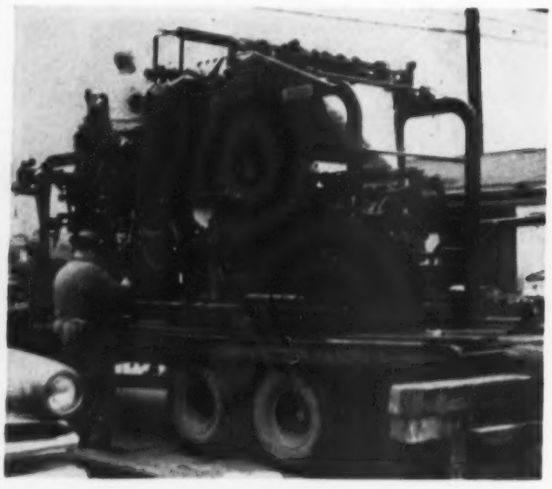
Stereo Department Improvements

The addition of curved stereotype plate equipment in the stereotype department of the *Sun* at first posed a problem due to the inexperience of the stereotypers in this type of work. The necessity for close control of the 580 deg. F. temperature of the metal in the pot was found to be a big factor in alleviating this situation. The pot was insulated with magnesium coating to reduce heat losses and help stability of regulation. Controlling the temperature of the molten metal was accomplished by installing a Minneapolis-Honeywell millivoltmeter indicating controller. This controller positions a solenoid valve to either an On or Off position depending on the heat requirements of the load. The temperature is sensed by a thermocouple immersed in the metal. Also installed on the pot was a safety control which automatically closes off the main gas valve in the event of pilot failure.

In the stereotype department were installed two badly needed machines—a small electric scorcher and radial arm router.

In the flat casting room, an exhaust fan in the vent hood duct over the remelting furnace speeds flow of air out of the room in warm weather. Construction of the new addition alongside this room had reduced considerably the amount of ventilation previously afforded.

The new building addition accommodates a 44,000 lb. Goss rotary press equipped with folding unit. Adequate space was allocated for newsprint roll storage located convenient to the pressroom. A paper roll handling system was also installed in this area. Large men's and women's washrooms were still an-



The 44,000 lb. Goss rotary press equipped with folding unit is shown here on a trailer truck ready to be moved into the enlarged plant of the San Fernando (Calif.) *Sun*. The press, which replaced a flatbed Goss Comet press, was moved 35 miles by truck from its previous location. One week's time elapsed between removal of the press and its operation in the *Sun* plant.

The Washington Post

caps modernization program with 22 new Linotypes

Modern is the word at the Washington Post . . . and *modern* are the Linotypes it uses.

The Washington Post—with the installation of 22 new Linotypes—has completed a modernization program which gives it one of America's most up-to-date publishing plants. *Modern* Model 35 Wide Range Mixers—the most advanced display machines made—set advertising and heads, while Blue Streak Comets—the fastest text machines in the world—set straight matter.

The result: deadlines met, better service to advertisers, fewer demands on personnel—greater all around efficiency!

Modern Linotypes can accomplish the same result for you.

MERGENTHALER LINOTYPE COMPANY
29 Ryerson Street, Brooklyn 5, N. Y.
Agencies: New York, Boston, Chicago, Cleveland, Atlanta, Dallas, San Francisco, Los Angeles. **In Canada:** Canadian Linotype, Limited, Toronto, Ontario

• LINOTYPE •

Set in Spartan Black and Caledonia families

Equipment Layout of Combination Weekly Newspaper and Commercial Printing Plant, San Fernando (Calif.) *Sun.*

News Composing Room

1. Superintendent's Desk
65. Fairchild Scan-a-graver
2. Markup Table
3. Linotype Machines
4. Magazine Rack
5. Machinist's Bench
6. Galley Storage and Work Tops
7. Makeup Tables
8. Vandercook Proof Press
9. Page Trucks
10. Turner Saw-trimmer
11. Vandercook Page Proof Press
12. Ludlow Machine
13. Ludlow Matrix Cabinets
14. Ludlow Slug Surfacer
15. Greer Rolling Tables

Stereotype Dept.

16. Mat Scorcher
17. Greer Rolling Table
18. Hammond EasyKaster
19. Metal Furnace
20. Stereotype Plate Storage
21. Goss Mat Roller
22. Mat Trimmer
23. Curved Plate Scorcher
24. Curved Casting Box
25. Tail Trimmer
26. Rib Shaver
27. Chipping Block
28. Curved Plate Router
29. Radial Arm Router
30. Hammond Glider Saw-trimmer
31. Rougher
32. Miller Saw-trimmer
33. Work Bench

Pressroom

34. Goss Clipper Rotary Press
35. Tables

Miscellaneous

36. Paper Baler
37. Storage areas
38. Maintenance Supplies
39. Shelving
40. Sinks
41. Drinking Fountain

Job Composition

42. Hammond Glider Saw-trimmer
43. Rouse Rotary Mitering Machine mounted on Strip Material Cabinet
44. Morrison Slug Stripper
45. Elrod Material Caster
45a. Elrod Parts Storage
46. Strip Material Storage
47. Type Cases
48. Single Type Cabinet
49. Letterboard

Job Pressroom

50. Imposing Tables
51. Chase Rack
52. 12 in. by 18 in. Kluge Automatic Platen Press
53. 8 in. by 12 in. Chandler & Price Platen Press
54. Future Miehle Vertical Press
55. Miehle Horizontal Cylinder Press
56. Roller and Ink Cabinet

Bindery

57. Cleveland Model O Folding Machine
58. Challenge Paper Cutter
59. Stitcher
60. Climax Paper Drill
61. Perforator
62. Men's Toilet
63. Women's Toilet
64. Lockers

other part of the addition. A number of tables were spaced near the new press for handling papers in mailing operations. Several self-designed rolling trucks are used for moving the papers from the press to the tying and mailing tables.

Eliminating Congestion

In the job composing room several improvements were necessary for good worker performance. General congestion in this type of operation means that poor quality work is done with excessive man hours. Lack of organization of equipment and materials results in wasted footsteps and unnecessary fatigue that only lowers production and increases errors. Poor plant conditions prevent good men from staying in the plant. The result is that money is lost each time a man leaves and the hunt is on for a replacement.

Single Solution for Two Problems

Two problems were apparent in the commercial section of the composing room. First, there was inadequate galley storage space. It was incomprehensible that the plant could be operated with so few galley racks. Second, a separate frame unit supported a marble stone for imposition and lockup. The two problems were eliminated by combining the imposition surface and galley storage into one unit.

Two galley cabinets, each holding 100 steel galleys, 10 in. by 16 in. were placed back to back and a steel surface imposing plate was installed on top for locking up forms as shown at *30* in the diagram.

The two galley racks occupy a floor area of 35 in. by 49 in. while the steel top measures 39 in. by 51 in. This provides an inch or two of overhang for the imposing surface and leaves some toe room at the base of the cabinets for the worker. The weight of the steel top is approx. 450 lbs.

Other improvements were incorporated into the revised layout of the job composing room. The provision for more work space on makeup banks was provided. Spacing materials, spaces and quads, brass and copper hairline spaces, rules, border materials, etc., were placed in accessible racks to reduce walking. Finger tip control is vital at this point with adequate room for cuts, slug composition, etc.

More Type Cases—Less Floor Area

Old city stands were replaced with steel cabinet shells. The steel shells hold a third more type cases without increase in floor space. The addition of another cabinet of wood furniture, as well as a gradual accumulation of steel furniture in the larger sizes, will eventually replace worn and damaged wood furniture to overcome one of the causes of inaccuracies of press lockup.

Speed quoins were added to assist in the lockup of forms for close register work.

Provision has been made in the job pressroom for the future installation of a Michle Vertical cylinder press. The V-50 model has a speed range of 3000 to 5000 i.p.h. with a max. sheet size of 14 in. by

Loading 10 cars of waste paper per week is easy for this Clark 1000-lb. electric

How to handle the vast accumulation of waste paper at Sears Roebuck's mail-order plant ceased to be a problem with the installation of a Clark electric 1000-lb. fork truck. Material is baled, and loaded into box-cars by the Clark truck—9 to 10 cars per week.

Time savings are substantial; yet the truck has spare time for such assignments as unloading incoming merchandise from trucks at the receiving dock.

This practice of *finding every possible use for Clark trucks* is typical of alert management, keen to win every penny's-worth of benefit from this modern low-cost method.

Are you getting the maximum return on your materials handling investment? Talk things over with your Clark dealer, a trained materials handling consultant. He's listed in the Yellow Pages of your directory—call him.

CLARK EQUIPMENT

Industrial Truck Division
CLARK EQUIPMENT COMPANY
Battle Creek 151, Michigan

20 in. This is intended to fill the gap in press range from the 12 in. by 18 in. Kluge and the 22 in. by 28 in. Miehle Horizontal.

Bindery Improvements

The bindery was better equipped by the addition of a Cleveland Model O folding machine and a paper drill. The Challenge Model E with attachments is used for round cornering and slot hole work on ledger pages. A floor model machine was suggested to permit its movement to any location in the department that is most convenient for the flow of the work.

A hand lever paper cutter was replaced with a 34 in. Diamond hand clamp power cutter and increased table space for bindery operations were on the improvement list. Rolling tables are essential for materials handling in every bindery. Several were recommended for the *Sun* plant. In the rolling truck method the paper is kept clean, organized and handy for the next operation and the amount of tables for holding stock is reduced. The previous method can be regarded as the Burma road method of stock transport since there is no regard for wanton waste of man hours or stock. Many plants are operated on this same theory of expendibility of both energy and man hours.

Steel shelving was installed to replace the existing wooden shelving with doors. Steel shelving is advantageous in that its open sides compel some degree of proper organizing of paper stock. It allows easy visibility for quick location and inventory. Wooden shelving with doors allows a catch-all condition to exist and hides a conglomeration of stock which remains in undisclosed storage unless cleaned out periodically. A man's time is wasted looking for stock in a disorganized stock cabinet. He would prefer opening up new stock than to go hunting for something in that area—and it would be a cheaper method if man hours were to be charged to the job for these hunting expeditions.

Disposal of Old Stock

A way was offered for overcoming the problem of accumulated odd lots of stock. By preparing a memo for the sales department, the odd lots are worked off on competitive jobs where the pricing is fairly close. In some cases, the small lots of stock are now padded into standard size pads with mixed color throughout the pad. Scratch pads are always popular for use in both offices and homes.

A stand equipped with different roll widths of Kraft wrapping paper and cutters was installed on the shipping table. Other equipment necessary on this table are 1½ in. and 3 in. gummed tape machines, parcel post scales and large scales. It was suggested that a place to keep labels, bill-of lading books, receipt books, etc., should be incorporated into the work table drawer.

News Items

(Continued from Page 41)

A. H. Solberg Appointed Sales Manager—A. H. Solberg has been named Sales Mgr. of the Geo. H. Morrill Co., Div. of Sun Chemical Corp., according to General Mgr. C. A. Brattstrom. Solberg also will continue as Midwest Mgr. in Chicago. He has been associated for over a quarter of a century in the mechanical departments of several newspapers, and as sales representative in the printing machinery field.

SOLBERG

Taga Meeting Plans — Plans are being made for the sixth annual meeting of the Technical Association of the Graphic Arts to be held in the Schroeder Hotel, Milwaukee, Wis., May 10-11, 1954. Organized to advance the science and technology of Graphic Arts processes, a group of researchers will describe recent advances in the printing industry. Intended to provide an opportunity for the discussion of technical problems, the TAGA meeting also will serve as a source of information for Graphic Arts workers in all fields. Richard Shaffer, Pratt Institute, Brooklyn, N. Y., is President of TAGA, and George Hammer, Forbes Lithograph Mfg. Co., Boston, is Secy-Treas.

Appointment of three vice presidents is announceed by the Board of Directors of Art Gravure Corp., New York, N. Y. Martin J. Waters is to have charge of plant operations; Clifford R. Noble, commercial sales div., and C. Philip Barber, newspaper sales div. Additional appointments include William G. Garvin to Asst. Treasurer, Henry J. Adcock to Secy., and William A. Pedersen to Asst. Sales Mgr., commercial sales div.

Sweitzer and Zentner Promoted—Charles S. Sweitzer has been named technical supervisor of Gardner Board and Carton Co.'s Mill II, Middletown, O., and Thomas G. Zentner has been assigned to the same position at the company's Lockland, O., carton plant. Sweitzer, a graduate of the New York State College of Forestry with a Bachelor of Science degree in pulp and paper manufacturing, joined the firm in 1952, and was promoted to chemist in 1953. Zentner, who also joined the company in 1952, as a mill technician, is a graduate of Texas Agricultural and Mechanical College and has a Doctor of Philosophy degree in the field of pulp and paper from the Institute of Paper Chemistry. Both men served with the U. S. Marine Corps within the past decade.

The Hewson Company, Inc., announces the appointment of Harris-Hanson Co., 5506 S. Kingshighway, St. Louis 9, Mo., as representative for sales, field application and servicing of its products for southern Illinois, Missouri and eastern Kansas. The company also announces appointment of Fred A. Pease, P.O. Box 1566, Denver 1, Colo., as its representative in Colorado, Utah, Montana, Wyoming, Idaho and New Mexico.

Enlarged Body-type—On Tuesday, Dec. 29, 1953, the Chicago *Tribune* changed to 9 pt. type on a 10 pt. slug. On Jan. 3, the *Sunday Tribune's Magazine of Books* also began using the new type in 8½ pt. size. The *Tribune* is the first newspaper to use this type face, developed in cooperation with the Mergenthaler Linotype Co. Equipping the 68 news composing machines in the *Tribune's* overall total of 112 with 150 thousand matrices in the new type cost approx. $40 thousand.

ADtype-Los Angeles Institutes Second Plant—The opening during November of its second plant at 916 Formosa Ave., Hollywood, Calif. by AD-type-Los Angeles, marked expansion of the company. The company was founded in 1946.

With personnel numbering 45, AD-type-Los Angeles, whose physical equipment is valued at $150 thousand, is located at 801 W. 12th St., Los Angeles.

Interior of the plant, specially-designed to specifications by partners Milton Lieberman and Herschel Rosenthal, in con-

Heidelberg Pressmen Graduate—Graduates of the original Heidelberg Pressmen's School in Cleveland were honored recently at a dinner when certificates of recognition were presented. The full class consisted of 20 pressmen. Some are shown, from left to right, as follows: Warren J. Kerrigan, Sales Representative; James D. McCann, Regional Mgr., both of Heidelberg Eastern Sales Co.; Robert H. Moore, Moore Printing and Advertising Co.; James Wolf, Deluxe Check Printers; William Hein, Hein Printing Co.; Don Wadsworth, Neff Perkins Co.; and J. A. Graham, Sales Representative, Heidelberg Eastern Sales Co., all of Cleveland.

Mac - This is the best saw I have seen - Let's go after the old man to order some for here - We need a Morrison Slug Stripper, too.
- Al.
MORRISON SLUG STRIPPER

The New York Times has 17 Morrison Saw Trimmers and a Morrison Slug Stripper. This picture of part of New York Times' ad room shows practical arrangement of saws and make-up tables.

Morrison Saw Trimmers in your composing room, with a Morrison Slug Stripper, cut your ad composition time to a minimum.

The MORRISON SLUG STRIPPER "proves itself the first day" . . . Speeds up stripping the face of any slug or type character to exacting thickness for quick corrections in zincs, electros or shell stereotypes. Saves mortising of the base. Without special adjustments, the clamp holds any slug from one point to 72 points, or from a single character to 30 picas in length. A great time-saver in any composing room.

Other Morrison Equipment Includes: Saw Trimmers, Plate Bevelers, Router and Type-high Planer, Strip Material Cabinets, Waste Receptacles, Universal Saw Blades, Router Bits, and Jigsaw Blades.

Symbol of Operating Economy

MC THE MORRISON COMPANY MILWAUKEE WIS.

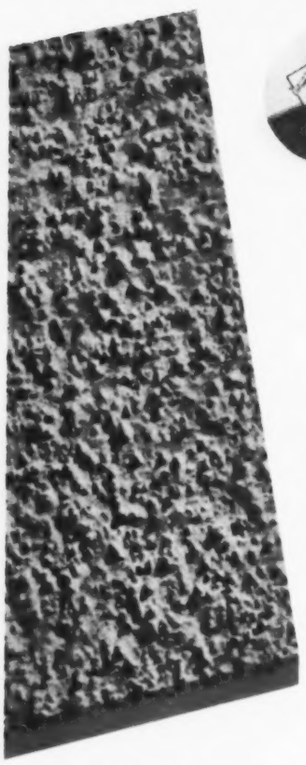
THE *Morrison* COMPANY

PRECISION MACHINES FOR THE GRAPHIC ARTS INDUSTRY

125 W. MELVINA STREET • MILWAUKEE 12, WIS.

SLASH COMPENSATION INSURANCE PREMIUMS with

ALGRIP



Slippery floors in pressrooms that keep accident rates up, production down and insurance premiums out of line can be made safe quickly and easily by installing ALGRIP Abrasive Rolled Steel Floor Plate.

In countless plants, laying ALGRIP in slippery areas has stopped accidents and pared insurance premiums down to pocket size.

Hundreds of tiny abrasive particles impregnated *to a controlled depth of penetration*—an exclusive ALGRIP feature—into tough, lightweight steel plate gives every square foot of ALGRIP an abrasive "grinding-wheel" grain surface that takes a firm grip at every footstep. And ALGRIP's surface never becomes smooth because wear only exposes new particles.

ALGRIP foot safety pays for itself in savings of insurance premiums. Write today for full details on how ALGRIP can cut costs for you. There's no obligation.

ALAN WOOD STEEL CO. ESTABLISHED A.W. 1826 CONSHOHOCKEN, PA.

UL

A.W. ALGRIP Abrasive Rolled Floor Plate
ALAN WOOD STEEL COMPANY
CONSHOHOCKEN, Pa.

Please send Booklet AL-30 on cutting costs with ALGRIP.

Name _____ Title _____

Address _____

City _____ Zone _____ State _____

junction with Plant Supt. Herbert Sorenstein, will contain some $175 thousand worth of equipment.

Included will be three Intertype linecasting machines, three Fotosetter photographic composition machines, a Robertson precision camera, size 20 in. by 24 in., and two 20 in. by 24 in. Adfotype cameras which will take copy up to 40 in. by 60 in. Operating electronically, these cameras have been developed by Adtype to meet its own requirements. Also included in the plant's expanded facilities are a photostat machine, a Bruning copyflex, an Esrever proof dryer, Monotype and Elrod departments, and 180 type faces available for hand setting.

Among the innovations to be found in the new Hollywood plant, which will employ 42 people, are a brilliantly-illuminated proof-reading room and specially-constructed copy-correction tables, featuring built-in rotating files, from which production men can pick out a proof for correction quickly.

Pick-up and delivery service has been facilitated by renting space to the Pacific Messenger Service, whose messengers are available to any section of the city.

Election of Gardner Cowles, President of the Des Moines *Register* and *Tribune* and *Cowles Magazines, Inc.*, as chairman of the Information Committee of the Committee for Economic Development, was announced recently by Meyer Kestnbaum, CED Chairman. Kestnbaum also announced appointment of Sigurd S. Larmon, president of Young & Rubicam, Inc., to the Information Committee. Cowles succeeds Harry Scherman, Chairman of the Board, *Book-of-the-Month Club, Inc.*, who has been chairman of the Information Committee since November, 1949. Larmon became a member of CED's Board in May, 1952. He also is a member of the Research and Policy Committee.

Officers of the National Association of Lithographic Plate Makers, Inc., include: President, Leonard Finesilver of New York Graphic Process Co., Inc.; Vice President, Abraham Kramer of Offset Plate Service Co.; Treasurer, Elihu N. Corwin of Plate-O-Litho Co., and Secretary, Herbert M. Brown of Servu Plate Makers Co., all New York organizations. Solomon Rothfeld is general counsel. The offices are located at 11 W. 42nd St., New York 36, N. Y. c/o Solomon Rothfeld, Room 1762. The Association was founded last April, and reportedly has an active membership of over 50 per cent of New York (N. Y.) platemakers.

Stockholders' Report—Mergenthaler Linotype Co.'s annual stockholders' report has been issued for fiscal 1953. Included in the report are dividends received from the firm's English subsidiary. Linotype's total net income for 1953 was $2,737,296 before taxes and $1,618,296 after taxes. During fiscal 1953 Linotype paid to its shareholders dividends amounting to $1,178,435, or $2.50 per share. Total dividends of $7,141,316, or $15.15 per outstanding share, have been paid to stockholders during the last six fiscal years, the period covered by the *Results in Brief* statement in the report. As of September 1953, the company's working capital, the excess of current assets over current liabilities, amounted to $19,885,794, an increase of $1,538,604 over the working capital at the end of the 1952 fiscal period. The book value of out-

ECONOMY LIFTERS

As used in the printing industry for:

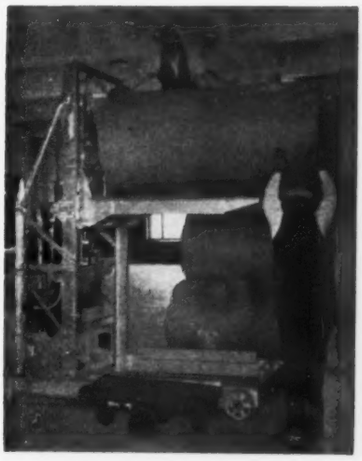
ROLL HANDLING
(any size or weight)

SKID HANDLING

BOXES, FLAT PAPER

BALES, WASTE PAPER

CARTONS



● "Handling News Print Rolls"

Other lifters available with capacities of 500 to 5000 pounds. Any platform lift and size. Hand and electric powered hoist units.

ECONOMY ENGINEERING CO.
4501 W. Lake Ave. . . . Chicago 24, Illinois

In 1954 . . .

The JUNIOR JET 17X22 BAUMFOLDER

. . . will be Your Gold-Mine

As it has been the past two or three years for the 1717 firms who say . . . "it pays for itself many times over every year".

It's the world's closest-precisioned . . . finest, fastest folder . . . makes folding your most profitable operation . . . Five Folds in 1 operation, 60 styles of folds . . . makes perforating practically all profit. It's an automatic folder . . . automatic lightning-speed perforator; automatic scorer; automatic cutter; automatic crimper; all in one. Tomorrow's automatic . . . at a pre-war price (equipped with Friction Feed $100 initial and $48 per month for 30 months . . . with Suction Pile Feed and extra motor and pump, same initial $100 and $10 more per month) . . . A Gold-Mine for a Life-Time . . . Do allow us to mail specifications. Thanks . . . Wishing you a Prosperous New Year to the ONE INDISPENSABLE INDUSTRY . . . The Graphic Arts.

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615 CHESTNUT STREET • PHILADELPHIA 6, PA.
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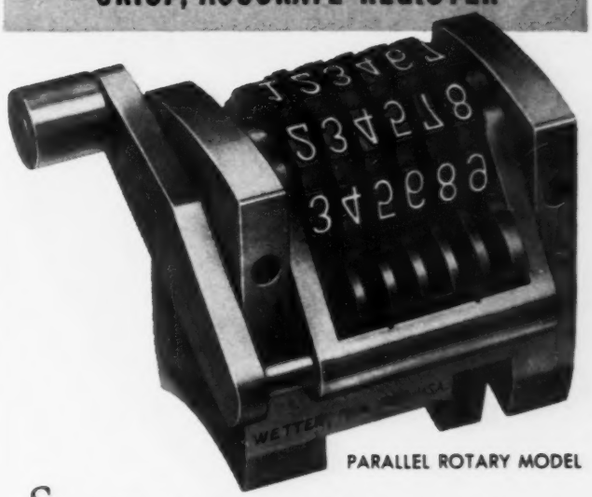
You can't gamble with numbers...

...They make or break a perfect printing job!

ONLY **WETTER** NUMBERING MACHINES GIVE YOU CONSISTENTLY

- PERFECT NUMBER SEQUENCE
- CLEAN, SHARP IMPRESSIONS
- CRISP, ACCURATE REGISTER



PARALLEL ROTARY MODEL

Specially designed for today's rotary presses, this sturdy cam-actuated machine accurately prints numbers in a line parallel to the axis of the impression cylinder. Features: rugged number wheels with heavy-duty ratchets in a one-piece, curved-base steel-frame; custom-curved number faces conform to cylinder curvature; easy mounting with Wetter Quik-Lok clamp base saves set-up time, eliminates mounting-ring adapters. Available in either Roman or Gothic style figures.

Number *right* and number *better* . .
. . *always* number with a WETTER!

Write for free descriptive folder today.

WETTER NUMBERING MACHINE CO.
ATLANTIC AVENUE & LOGAN STREET - BROOKLYN 8, N.Y.
ONLY UNION MADE NUMBERING MACHINE IN U.S.A.

Miller Promotes Three — Because of the retirement Dec. 1 of D. J. Casey, Vice-president and New York Branch Mgr. of the Miller Printing Machinery Co., several personnel transfers have been made in the organization. D. D. Ewing, Jr., former Boston Branch Mgr., has been named New York Branch Mgr. Succeeding him in Boston will be A. E. Furstenberg, former Miller representative in western Pennsylvania and in New York state. Ronald Sandbach of the New York office has been Branch Mgr. of the company's Los Angeles office since Nov. 1.

EWING FURSTENBERG SANDBACH

standing stock was at a high of $30,421,-161, or $64.54 per share. In the report, MLCo President Martin M. Reed comments upon the line of phototype-setting machines being developed in Linotype's laboratories, the first model of which will be exhibited in April 1954. As is presently the customary practice in the case of large corporations, the Mergenthaler report has been prepared for easy reading by breaking down intricate figures into simple form.

Appointed to the sales staff of Herbick and Held Printing Co., Pittsburgh, Pa., is Joseph C. Molitor, who was associated with United States Printing and Lithographing Co., Baltimore, Md., for eight years, with Rossotti Lithographic Co., North Bergen, N. J., for three years, and with Stecher Traung Lithographic Co., Rochester, N. Y., for 18 years.

Anchor Chemical Corp. Changes — Purchase of property at 827-831 Bergen St., Brooklyn 38, N. Y., is announced by Alfred A. Jasser, President of Anchor Chemical Co., Inc. A larger telephone switchboard has been installed with a series of phone numbers starting with MAin 2-8006.

Clarence R. Snethen, Production Mgr. of the Waukegan (Ill.) *News-Sun* for the last 10 years, retired this month from active direction of that newspaper's mechanical operations. F. Ward Just, *News-Sun* publisher, announced that Snethen will continue his association with the newspaper as a consultant, and that he will be succeeded by Earl Swinney of North Chicago, Snethen's composing room assistant for the last four years. Mr. and Mrs. Snethen plan to reside in California. Snethen has been engaged in newspaper rotary and rotogravure printing for the last 40 years. He supervised installation of the *News-Sun's* special color pressroom and pioneered in the development of newspaper color printing. The *News-Sun* has won several national awards as a result of color printing techniques developed by Snethen.

Information Service Available—Rochester Institute of Technology has officially opened an agency to collect, evaluate and disseminate information for the Graphic Arts industry. The Information Service, incorporated as part of the Graphic Arts Research Div., is available to anyone in the industry—from the owner of the one-man shop to the research director of a large corporation. For brief, factual questions, bibliographies and literature searches, the agency is making use of a mechanized punch card system. This material is collected from over 100 scientific and trade journals, a specialized book collection and a file of advertising literature. The *Graphic Arts Index*, formerly compiled by Fred J. Hartman of the Intl. Graphic Arts Education Assoc., will be continued by this RIT branch as a new publication called *Graphic Arts Progress*. All inquiries should be addressed to: Information Service, Graphic Arts Research Div., Rochester Institute of Technology, 65 Plymouth Ave. South, Rochester 8, N.Y.

ROP Color Progress At *Milwaukee Journal*

People at the Milwaukee (Wis.) *Journal* are increasingly enthusiastic about r.o.p. color printing. Promotion Mgr. C. R. Conlee gives *Printing Equipment Engineer* some information for the period September to November inclusive. At the time of the report, the press color convertible decks at the *Journal* had been in operation three months. During this period, the *Journal* ran 71% more r.o.p. editorial color and 78% more lines of r.o.p. color advertising than appeared in the same period in 1952.

In a Sunday issue, roughly one-fourth of the paper—97 pages out of 402—carried editorial or advertising color. Color in the daily editions is running correspondingly high. Color pictures are used as illustrations for articles in the news sections. There's color in the sports pages and on the picture page. Campaigns for regular color positions have been sold.

It seems there has been an increasing volume of color at the *Journal* which of course is being backed up by an enthusiastic *Journal* personnel in all departments.

Correction

An error in *Printing Equipment Engineer's* report of the R&E Council Letterpress session at Hotel Gibson, Cincinnati, Oct. 1, has been called to our attention. The paper, *From Copy to Press*, was prepared jointly as reported by Howard P. Wampler and Robert H. Roy, but it was read at the Letterpress session by Mr. Wampler. Wampler is Head of Engineering Dept., The Waverly Press, Baltimore, Md. Roy is Dean of the School of Engineering, Johns Hopkins University, Baltimore, Md. We are glad to make the correction.

Cottrell Joins Harris-Seybold

The acquisition of the assets of C. B. Cottrell and Sons Co. by Harris-Seybold Co., manufacturers of offset lithographic printing presses, was recently announced by Harris-Seybold president George S. Dively.

The Cottrell firm, which builds letterpress and gravure presses, has plants in Westerly, R. I., and Milwaukee, Wis., employing about 900 people. The recent annual sales of the company, which was founded in 1855 as a family-owned concern, averaged approx. $10 million, about one-third of which has been in defense work outside the company's regular lines.

Harris-Seybold, now in its 59th year of operation, reported shipments of $29 million in the fiscal year ending June 30, with defense work outside regular product lines representing about 32 per cent of the total. Also, the company pioneered development of the offset lithographic process.

Dively also stated that the Cottrell company will be operated as a wholly owned subsidiary of Harris-Seybold, with Donald C. Cottrell continuing as president. Cottrell has been active in the business since 1932 and its president since 1949.

With the addition of the Westerly and Milwaukee plants, Harris-Seybold consists of six manufacturing facilities. General offices and the Harris Div. printing press plant are located at 4510 E. 71st St., Cleveland. Also in Cleveland are the Harris Chemical Div., manufacturers of lithographic platemaking chemicals, and the Macey Co., another wholly owned subsidiary, designers and builders of sheet collating equipment for offices and printing plants. The Seybold Division in Dayton, O., produces power paper cutting machines.

Craftsmen Foreign Membership

The Participating Membership program being advanced by the Intl. Assoc. of Printing House Craftsmen under the direction of Harry B. Friedenberg, Chairman, now makes the benefits of Craftsmanship available to people of foreign countries. Such membership is available to individuals residing outside the United States and Canada who are engaged in some phase of Graphic Arts production in a supervisory capacity. At present, the program is divided into Swiss-German, Anzac, French-Belgian, British and South American-Mexican departments. Full particulars may be obtained by writing Friedenberg at 18003 Griggs Ave., Detroit 21, Mich.

Refer to the Yellow Pages in the 1954 P-Double-E Where To Buy Reference issue when you want to know source of supply for printing equipment and supplies.

Mind these type metal P's and you can forget type metal Q questions

Imperial

Periodic Analysis
Personal Counsel
Plus Metal Service

A threefold way to beat your type metal troubles. Ask us how.

Imperial
TYPE METAL COMPANY
SERVING THE GRAPHIC ARTS *Exclusively*
PHILADELPHIA 34 • NEW YORK 7 • CHICAGO 50

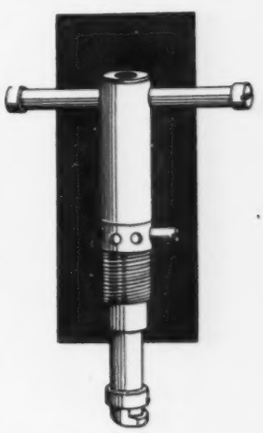
DID THE ROOF FALL IN...

the last time you needed linotype parts in a hurry?

Things can really look black—when you need a part in a hurry. Usually it's just a small part, too —like a vise locking screw—and it isn't in your stock! Production stops, the composing room ends up in a snarl . . . and the boss does, too.

That's only one of the times when you'll appreciate the many ways STAR saves you time and money . . . in selection, top quality, economy and fast dependable service.

As an example, the STAR Vise Locking Screw is adjustable to take up wear, and has a hardened replaceable tip that eliminates necessity of a whole new unit because of extreme use or breakage. It is only one of the many STAR parts whose original investment repays itself many times.



For Linotype or Intertype.
Descriptive folder available.

Check your composing room requirements and order from STAR today — before the roof falls in!

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Patents

For The GRAPHIC ARTS

Covering patents issued October 6, 13, 20, and 27.

All new patents for the Graphic Arts are reported exclusively for Printing Equipment Engineer by Invention, Inc., an industrial patent research organization in Washington, D. C. Invention, Inc., presently has the only staff in the country that examines, in the U. S. Patent Office, the complete printed copy, drawing by drawing and page by page, every one of the several hundred new patents issued each week. Printing Equipment Engineer is the only trade publication in its field offering a report based on this complete coverage. For copies of the patents listed here specify the patent numbers and send 25c for each separate patent, or 10c for each trade mark or design patent (stamps not accepted) to the Commissioner of Patents, Washington, D. C.

BINDING, CUTTING, PERFORATING:

2,654,429. KNIFE CONTROL FOR PAPER CUTTING MACHINES is operative to permit actuation of the knife only after the material to be cut has been firmly clamped. The control will be actuated without adjustment regardless of the thickness of the stack on the table. Manual actuation of the knife is prevented until the stack has been clamped. Invented by William C. Rupp, Parma, O. Assigned to Chandler & Price Co., Cleveland, O. Application Oct. 27, 1949. 7 Claims.

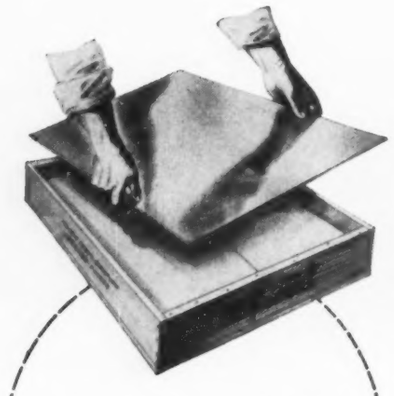
2,654,431. THE WEB SEVERING DEVICE is of the type disclosed in patent No. 1,918,407. A plurality of solenoid operated knives are employed which are normally concealed within a tubular supporting member. The knives are movable outwardly through openings therein to puncture or slash the web at a plurality of spaced points. Tension is then exerted on the web to effect separation of the material. Invented by C. P. Feldhausen and William H. Rouse, Greenfield, Wis. Assigned to Cutler-Hammer, Inc., Milwaukee, Wis. Application July 15, 1948. 4 Claims.

2,654,932. A SHEET CLAMPING DEVICE is for use in bookbinding operations and provides means for holding a stack of sheets against movement during application of adhesive. A rigid clamp is cooperable with a base to clamp sheets therebetween and includes a longitudinally extending top rib having a pair of spaced cross ribs. A resilient cross bar has openings for receiving a pair of resilient guide rods which extend up from the base, and is guided for vertical movement by guide rods. The cross bar is deformable about cross ribs in response to the application of clamping forces to the ends of the cross bar which are maintained perpendicular to the adjacent parts of the guide rods. The ends of the cross bars are locked to the guide rods when the cross bar is deformed to maintain the clamp in clamping position against the stack of sheets held by the base. Invented by Wayne F. Goudie, Kenosha, Wis. Assigned to Devere Co., Racine, Wis. Application Oct. 5, 1948. 3 Claims.

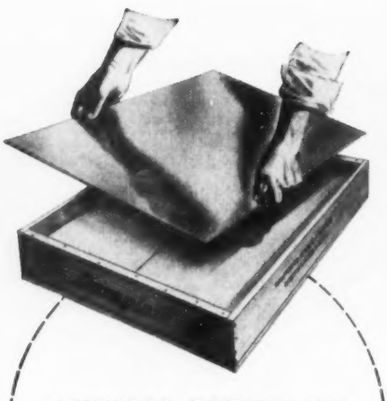
TWO

TOP QUALITY PHOTOENGRAVING ZINCS

by Imperial



IMPERIAL REGULAR
(Blue Redibak)
Meets the requirements for all usual applications



IMPERIAL DURAPLATE
(Orange Redibak)
Alloyed for extra tough duty
Unusually resistant to buckling
(Priced the same as Imperial Regular)

IMPERIAL TYPE METAL COMPANY

SERVING THE GRAPHIC ARTS Exclusively

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IN CANADA: LATIMER, LIMITED, TORONTO 2-B

2,656,888. ROUND CORNERING MACHINE is for rounding outer corners of book leaves and covers, and comprises a table for supporting a stack of sheets, bases which are transversely adjustable on the table forward and away from each other, dies and companion cornering knives mounted on the bases, and gauges for the opposite edges of the stack on the bases. A vertically reciprocating beam extends across the table above the bases. The knives have projecting studs in transversely slidable engagement with the beam whereby the knives will be activated regardless of the transverse adjustment of the stationary base and regardless of the jogging movements of the other base. Invented by Charles C. Cruzan, Salt Point, N. Y. Assigned to Wire-O Corporation, Poughkeepsie, N. Y. Application May 11, 1951. 2 Claims.

COMPOSING ROOM:

2,654,317. THE TYPE FORMING MACHINE comprises a table on which is mounted a turret having six work holding fixtures spaced 60 deg. apart in its top surface. During the machine cycle the turret is indexed 60 deg. and locked in position by a mechanism synchronized with the turret advancing mechanism. As a work fixture is positioned towards the front of the table, it is adapted to receive a slug. By successive indexings, each type slug is carried to a kneading position wherein a continuously rocking die matrix is automatically pressed against the slug to form a piece of type. The next indexing carries the type where it is partially ejected. On the following indexing the type is removed. Invented by Clarence C. Rutbell, Endicott, N. Y., and Julius Lusht, Endwell, N. Y. Assigned to International Business Machines Corp., New York, N. Y. Application July 14, 1951. 5 Claims.

2,656,038. TYPOGRAPHICAL DISTRIBUTING MECHANISM has an improved clutch device of increased sensitivity, in which a force of 1½ lbs. acting upon distributor screws is sufficient to produce disengagement of the driving and driven members. After their disengagement, provision is made for automatically locking the driven member out of operative relationship with the driving member until manually released and reset. The invention is for use with typographical distributing machines, such as Linotype machines. Invented by William B. Abbott, Springfield Gardens, N. Y., and Paul Hilpman, Garden City, N. Y. Assigned to Mergenthaler Linotype Co., Brooklyn, N. Y. Application Feb. 1, 1951. 14 Claims.

2,656,791. TYPE-POSITIONING BLOCK ASSEMBLY comprises a solid, rectangular block having a plurality of parallel ribs running transversely thereof at an acute angle to the face of the block on one side only. The ribs cover an area from one end edge to a point spaced from the other end edge, thereby leaving an end section of normal block thickness. The ribs are of a reduced height and are spaced to provide complementary channels for the reception of ribs of a similar block. A plurality of ribs intersect the transverse ribs and are of a height comparable thereto. The first ribs are grooved between the second ribs to provide channels complementary to ribs of a similar block. Invented by Charles F. Tilghman, Berkeley, Calif. Unassigned. Application June 15, 1948. 1 Claim.

FEEDING, FOLDING, DELIVERY:

2,654,545. THE WEB-RENEWING MECHANISM is used with three-arm roll stands and includes a frame to carry a driven belt, the frame being movable to apply the belt to and from the peripheral surface of a roll in the replacement position of the roll stand whereby that roll may be speeded up from rest to a peripheral surface speed equal to speed at which web is being drawn from running roll. The assembly includes a support carrying a brush and severing knife, the former to deflect the running web so as to contact rim of the replacement roll and to adhere to it through an adhesive and the latter to sever the web passing from the running roll. The brush and knife supports are moved automatically and synchronously with the movements of belt frame by a single electric motor. Invented by Thomas R. Bennett, Kingsbury, London, England. Assigned to R. Hoe & Co., Inc., New York, N. Y. Application Mar. 13, 1950; in Great Britain Mar. 14, 1949. 3 Claims.

2,654,599. SIDE REGISTRATION CONTROL DEVICE FOR MOVING WEBS. A photoelectric scanning device is located close to the point where register error is likely to first occur and a control circuit associated with the scanner is adapted to correct any misregister by applying a series of pulses for small out-of-register and pulses of longer duration or a constant correction when out of register is large. Individual phototubes are used for each direction and each average speed desired so that system can be made very stable. The range of phototube from light to dark is several times that required for the amplifiers to operate their respective relays. Invented by Stewart E. Frisbie and William O. Smiley, Danville, Ill., and Joseph C. Frommer, Cincinnati, O. Assigned to Electric Eye Equipment Co., Danville, Ill. Application June 27, 1949. 2 Claims.

2,654,602. A SHEET-SUPPORTING MACHINE consists of a pile elevating mechanism for use in a sheet separating machine having at least one front gauge and one side gauge and in which the side gauge is adjustable for different widths of sheets. The side board is arranged to seat on top of the pile board and is arranged automatically to move out of the path of the board as the board is elevated. The side gauge is supported by an arrangement which permits vertical movement of the gauge so that the gauge may seat on the board when the latter is in any position within a range of the vertical movement of the board. Invented by Headley T. Backhouse, Sunningdale, England. Unassigned. Application Aug. 15, 1951; in Great Britain, Aug. 18, 1950. 8 Claims.

2,654,601. THE PILE ELEVATOR is for use with automatic feeders for all weights of paper to be fed to a printing press. The fluid used to raise the pile elevator is conducted to the hydraulic cylinder and away from the cylinder by a single conduit, thus reducing the number of conduits to a minimum. The apparatus further includes a valve for controlling the lowering of the pile elevator, a fluid supplying pump, and a fluid controlling valve arranged and housed in a novel manner as a single unit and disposed wholly within the fluid supply. Invented by Leo. C. Williams, Pearl River, N. Y. Assigned to Dexter Folder Co., Pearl River, N. Y. Application Feb. 6, 1948. 8 Claims.

2,654,603. PILE ELEVATOR. In an apparatus for feeding sheets from the top of an elevated pile to a press or other device, a pile elevator having a retractable support can be raised until the support reaches a certain height and the pile is diminished through removal of sheets from the top. A second pile elevator is operable automatically under the control of the first elevator when the support reaches the height for raising a new pile of sheets to the bottom of the elevated diminished pile. A mechanism operable automatically under the control of the new pile renders the mechanism operative as the new pile reaches the level of the bottom of the diminished pile to retract the support away from the diminished pile. The second elevator is so controlled that further raising of the pile is effected when the support is retracted and as the sheets are removed from the top of the pile. Invented by Leo C. Williams, Pearl River, N. Y., and Norman H. Runge, Orangeburv, N. Y. Assigned to Dexter Folder Co., Pearl River, N. Y. Application Oct. 12, 1946. 8 Claims.

2,654,604. THE SHEET DELIVERY MECHANISM is for sheet handling in connection with high speed printing presses and uses delivery grippers for drawing successive sheets in a horizontal plane from the machine. The grippers are caused to release the sheets at a predetermined point in their travel, i.e., while the grippers are above a point of deposit of the sheets. Positively acting strippers are arranged near the point of deposit and comprises at least one stripper tongue extending rearwardly toward the leading edges of the sheets. A cam surface rigid with the stripper tongue is adapted to be contacted and depressed by a portion of the gripper at a point following the release of the sheet. The stripper tongue is swung downwardly in contact with sheet to propel it to point of deposit faster than it would travel by gravity alone. Invented by John W. Clay, Winston-Salem, N. C. Assigned to American Type Founders, Inc., Elizabeth, N. J. Application Mar. 16, 1951. 10 Claims.

2,655,212. A WEB HANDLING MACHINE incorporates first and second pairs of web feeding rolls disposed in spaced relation. The rolls are arranged as vertical stands for allowing the web material to be trained through the nip of each of these pairs of rolls with a web portion extending between the roll pairs over the top roll of each pair. The top roll of each pair is intermittently displaced in a direction opposite the direction of travel of the web between the pairs of rolls and at a speed equal to the feeding speed of the web. Invented by Ralph T. Stewart, Winston-Salem, N. C. Assigned to The Herald Press, Inc., a corporation of North Carolina. Application Jan. 10, 1950. 7 Claims.

2,656,051. A TURNOVER MECHANISM is adapted for turning over end for end a pile of stacked sheets positioned between a pair of skids. A pair of end frames are adapted to be placed one at each end of the stack to support it. Each end frame has bolts projecting therefrom which engage a slotted bar adapted to be positioned across each skid. A single side frame is adapted to be placed at one side of the stack to support the stack and has slotted openings for engagement with second bolt. A pivot mechanism is connected to each end frame to turn the stacked sheets and skids over end for end after they have been lifted. Invented by Phil H. Jenkins, Columbus, O. Unassigned. Application Jan. 10, 1951. 3 Claims.

2,656,979. SHEET COUNTING DEVICE FOR SHEET HANDLING MACHINES is for use in connection with a printing press having a reciprocable delivery carriage and comprises a sheet unit register and a power circuit connectible to a source of power for operating the register. A first power switch is operable in response to traverse of the carriage of its delivery stroke. A second power switch is mounted on and movable with the carriage and actuable by weight of a sheet on the carriage. A second switch lies in series with the first for joint operation of the register upon simultaneous actuation of both switches. The first switch is arranged for actuating the passage of the carriage through the second half of its delivery stroke, whereby repeated operation of the register due to fluttering of the sheet is prevented. Invented by Amedeo De Palma, North Haven, Conn. Assigned to National Folding Box Co., Inc., New Haven, Conn. Application June 8, 1951. 3 Claims.

2,657,052. SHEET DELIVERY MECHANISM comprises a sheet conveyor which is adapted to be driven at different selected speeds and mechanism for gripping the sheets at their forward ends. Suction is employed to aid movement of the sheets in the direction of travel over which the sheets are drawn by the grippers. A manually adjustable control is adapted to function during operation of the mechanism to regulate the speed of movement of the suction independently of conveyor speed. Invented by Thomas J. Elliott, Cleveland, O. Assigned to Harris-Seybold, Cleveland, O. Application Oct. 25, 1947. 12 Claims.

MISCELLANEOUS:

2,654,315. PROCESS OF MULTICOLOR ELECTRONOGRAPHIC PRINTING. The process provides a plurality of printing couples employing electro fields of force to effect transference of ink to a print receiving material. The print receiving material is successively passed through the field of force for each printing couple employed. Any existing electrical charges upon the material are eliminated. Thereafter, the material is provided with an electrical precharge prior to its introduction into the printing zone of each printing couple. Invented by William C. Huebner, New York, N. Y. Assigned to The Huebner Co., Dayton, O. Application May 15, 1947. 1 Claim.

2,655,959. WORK CLAMP AND ALIGNING GAUGE FOR SAWING MACHINES is for use on sawing machines of the type used to saw and trim printers' plates. The clamp is permanently mounted on the reciprocable work table of a sawing machine for clamping the plate to the table. The clamp may be adjusted to grip and release the various thicknesses of the plates. The gauge for the clamp is automatically aligned with the saw line by reason of engagement with the saw to trim the gauge to the plane of the saw after the gauge is mounted on the clamp. Invented by Edward C. Krueger and Adrian L. Vander Linde, Kalamazoo, Mich. Assigned to Hammond Machinery Builders, Inc., Kalamazoo, Mich. Application May 21, 1951. 4 Claims.

2,656,449. ELECTRIC RADIENT HEAT DRIER. The invention has particular application to the drying of printed sheets which pass a heating element on a conveyor while the printing ink is still wet. A heat drying unit is included of the type employing in conjunction with a simplified method of preventing heat radiation in the event of a work stoppage. This is effected by the rotation of a reflector by means of a handle which places the reflector between the heating element and the paper thus deflecting the heat from the paper. Invented by Everett G. Elgar, Toronto, Ont., Can. Assigned to Canadian General Electric Co., Ltd., Toronto, Ont., Can. Application April 28, 1952. In Canada May 1, 1951. 4 Claims.

PLATEMAKING:

2,655,101. PLANOGRAPHIC PLATE AND METHOD OF MAKING SAME. The plate comprises a paper foundation having incorporated with the fibers thereof, a binder of the group consisting of melamine resin, urea-formaldehyde resin and compounds of the resins with a carboxymethyl

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cellulose compound. A dry coating on the front surface of the foundation consists of an oleophilic image-receptive, hydrophilic background-forming printing surface comprising a water-soluble carboxymethyl cellulose compound. An ink-receptive water-repellent image is on the coating. Invented by Douglas A. Newman, Port Washington, N. Y. Assigned to Columbia Ribbon and Carbon Mfg. Co., Inc., Glen Cove, N. Y. Application Dec. 22, 1945. 34 Claims.

2,655,864. METHOD OF MAKING PLANOGRAPHIC PLATES constitutes coating the surface of a paper foundation with a composition comprising an aqueous solution of a water-soluble carboxymethyl cellulose compound. The resulting coating is dried and treated with an aqueous solution of metal compounds consisting of copper salts and aluminum salts in equal parts by weight to coagulate the carboxymethyl cellulose. After the coagulated coating is dried, an ink-receptive image is inscribed on the surface of the coating. Invented by Douglas A. Newman, Port Washington, N. Y. Assigned to Columbia Ribbon and Carbon Mfg. Co., Inc., Glen Cove, N. Y. Application Dec. 22, 1945. 5 Claims.

2,656,790. MAKING READY CYLINDRICAL PLATES. A process is provided for making ready cylindrically curved relief printing plates. The process comprises forming a stereotype mat from a printing plate of the same size and design as the plate to be made ready. A flong is employed which shrinks on drying principally in a direction circumferentially of the cylindrical plate to be underlaid. The mat is dried until it is in radial register with the concave face of the plate with which it is to be used. An underlay is formed from the mat and has thicker portions corresponding to the solid printing areas of the curved plate and in radial register therewith. Invented by Frank E. Reilly, Winnetka, Ill. Assigned to Electrographic Corporation, New York, N. Y. Application May 13, 1950. 11 Claims.

PRINTING PRESSES AND EQUIPMENT:

2,654,314. MOISTENING MEANS FOR PLANOGRAPHIC PRINTING MACHINES includes in combination a fountain, a distributing roller, and a moisture pick-up device. The pick-up comprises a spindle rotatable about an axis parallel with that of the roller. A series of rows of bristles are secured at their root ends to supporting bars detachably held on members secured on the spindle. The spindle is adjustably supported so that its rotation carries the rows of bristles through the fountain and into wiping engagement with the roller and permits movement of the spindle transversely of its axis. A coupling is connected to the spindle with a variable speed drive which is secured in fixed position on the machine. Invented by Arthur Southway, Twickenham, England. Assigned to R. Hoe & Co., Inc., New York, N. Y. Application Aug. 8, 1950; in Great Britain Aug. 10, 1949. 2 Claims.

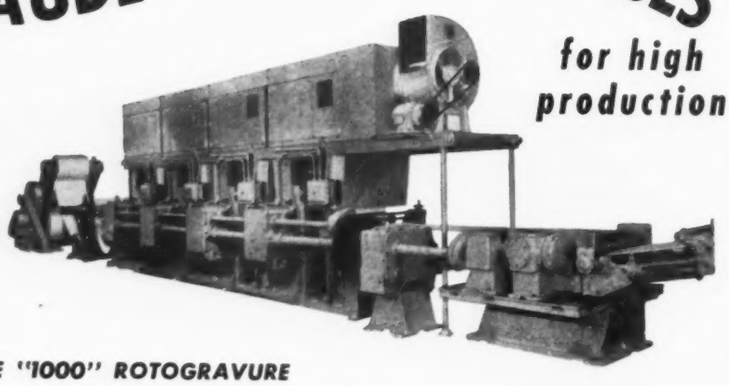
2,654,316. THE PRINTING PRESS includes a printing couple, each member of which is supported for oscillatory movement. One member of the couple is driven with an accelerating-decelerating motion. Gears connect the members to cause movement of one when the other is driven. The gears include a mechanism which is responsive to change in velocity of one of the members for maintaining constant tooth contact and preventing relative movement of the members during a printing operation. Invented by Willard M. Pollock, Short Hills, N. J. Assigned to American Type Founders, Inc., Elizabeth, N. J. Application Sept. 29, 1949. 10 Claims.

2,655,102. INTAGLIO PRINTING PRESS. The inking mechanism provided for an intaglio printing press is an elongated hollow member which is adapted to be disposed adjacent the cylinder parallel to the axis of the cylinder to form with the surface a receptacle for a pool of ink. Such elongated hollow member has opposed hingedly movable portions providing a passage from the interior to the exterior thereof through which the ink may pass. The hinged movement of the portions varies the effective cross sectional area of the passage. Invented by Frank A. Ross, Ross Township, Allegheny County, Pa. Assigned to Miller Printing Machinery Co., Pittsburgh, Pa. Application Feb. 15, 1951. 16 Claims.

2,655,104. INKING MECHANISM FOR PRINTING PRESSES is of the type having an adjustable fountain blade for regulating the thickness of the film of ink supplied to the fountain roller. The present invention provides an auxiliary fountain blade adjusting mechanism which cooperates with the regular adjusting mechanism of the fountain to afford more accurate differential adjustments of the blade with respect to the fountain roll to insure that the proper thickness of ink film is supplied to the roll. Invented by Walter S. Jo.ld, Cicero, Ill. Unassigned Application Aug. 26, 1949. 8 Claims.

For Patent Research in the U. S. Patent Office, or a prompt estimate on any type of search, address INVENTION, INC. Munsey Bldg., Washington, D.C.

Two STAUDE PRINTING PRESSES for high production



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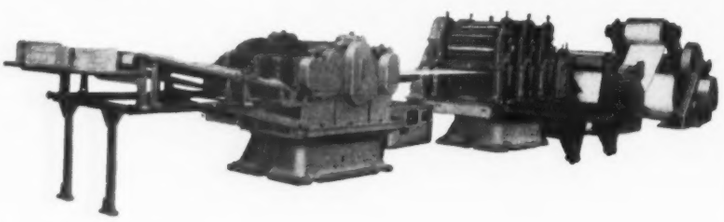

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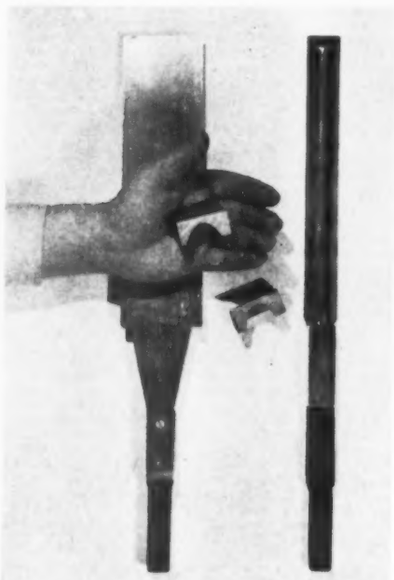

Removable Cores designed for use in the conventional type of stereotype box provide recesses in type high stereotype plates. The plates are lighter in weight because less metal is used in casting and the trimming time is reduced. The cores are designed for casting one or two column width type high plates. The cores are held immovably in the casting box with the rounded core above the mat. The fixed position is accomplished by a rocking action when the box lid is closed and clamped. Inventor is Stephen I. Griglak, who has been granted a U.S. patent.

Conference Dates

(With Organization Names and Principal Officers)

American Photoengravers Assoc. — 1954 Conf., Hotel Jefferson, St. Louis, Mo., Oct. 11, 12, 13. Pres., D. H. Murnik, Oakland National Engraving & Gravure Co., 307 Tenth St., Oakland 7, Calif.; Exec. Secy., Frank J. Schreiber, 166 W. Van Buren St., Rm. 430-A, Chicago 4, Ill.

ANPA Mechanical Conf. — 1954 Conf., Chalfonte-Haddon Hall Hotel, Atlantic City, N. J., June 7, 8, 9. Chairman of the Committee, Joseph E. McMullen, Prod. Mgr., Milwaukee (Wis.) *Journal;* Mgr., ANPA Mechanical Dept., Richard E. Lewis, 370 Lexington Ave., New York 17, N. Y.

Book Manufacturers' Institute — 1954 Spring Meeting, Plaza Hotel, Apr. 8, New York, N. Y. Pres. Sidney Satenstein, American Book-Stratford Press, Inc., 75 Varick St., New York 13, N. Y.; Secy., Miss A. G. Watson, 25 W. 43rd St., New York 36, N. Y.

Fifth District Craftsmen's Conf. — 1954 Conf., William Penn Hotel, Pittsburgh, Pa., June 11, 12. Pres., Robert Edgar, Pres., Neyhart Printing Co., 244 Blvd. of the Allies, Pittsburgh, Pa.; Secy-Treas., Robert Wolf, Richardson-Taylor-Globe Co., 4501 Mitchell Ave., Cincinnati 32, Ohio.

Graphic Arts Trade Assoc. Executives— 1954 Conf. Sinton Hotel, Mar. 27,28, Cincinnati, O. Pres. Richard A. Stout, Exec. Dir., Printing Industry of Atlanta, 881 Piedmont Ave., N.E., Atlanta, Ga.; Secy., Arthur L. Johnson, Graphic Arts Assoc. of Milwaukee, 704 W. Wisconsin Ave., Milwaukee 3, Wis.

Gravure Technical Assoc. — 1954 Annual Meeting, Hotel Biltmore, New York, N.Y., Feb. 3, 4, 5. Pres. John E. Hazel, New York *Daily News,* 700 Pacific St., Brooklyn 17; Secy.-Treas., Frank Sportelli, International Color Gravure, 39 W. 60th St., New York 23, N. Y.

Great Lakes Newspaper Mechanical Conf. — Secy.-Treas., Don Clark, Stereotype Supt., Grand Rapids (Mich.) *Press.*

Illinois Newspaper Mechanical Conf. — 1954 meeting, Hotel Custer, Sept. 25-26, Galesburg, Ill. Pres. Eldon L. Martin, Galesburg (Ill.) *Register-Mail;* Secy.-Treas., Wilbur L. Augspurger, Peoria (Ill.) Newspapers, Inc.; Chairman Supplymen's Committee, Joseph D. Goggin, Newspaper Publishers Supply Co., 1639 N. Lorel Ave., Chicago 39.

Intl. Assoc. Electrotypers & Stereotypers — 1954 Conf., Greenbrier Hotel, White Sulphur Springs, W. Va., Oct. 28-Nov. 1. Pres., Carl N. Becker, Becker Electrotype Co., 144 N. Water St., Milwaukee 2, Wis.; Exec. Secy., A. P. Schloegel, 701 Leader Bldg., Cleveland 14.

Intl. Assoc. of Printing House Craftsmen — 1954 Conv., Bellevue-Stratford Hotel, Philadelphia, Aug. 8-11. Pres., Howard N. King, The Maple Press, York, Pa.; Exec. Secy., Pearl E. Oldt., Rm. 806, Transportation Bldg., 307 E. Fourth St., Cincinnati 2, O.; Convention Chairman, Ray Miller, 300 Valley View Rd., Media, Pa.

Intl. Graphic Arts Education Assoc.—1954 Conf., University of Colorado Campus, Boulder, Colo., early in July, exact dates to be announced later. Pres., Patrick F. Boughal, New York School of Printing, 461 Eighth Ave., New York 1, N. Y.; Exec. Secy., Samuel S. Burt, 719 Fifteenth St., N. W., Washington 5, D. C.

Intl. Typographic Composition Assoc. — 1954 Conv., Hotel LaSalle, Chicago, Sept. 23, 24, 25. Pres., Harold L. McGirr, Morris & Walsh Typesetting Co., Inc., 129 Lafayette St., New York, N. Y.; Frank M. Sherman, Exec. Dir., 1015 Chestnut St., Philadelphia 7.

Iowa Daily Newspaper Mechanical Conf. —Secy.-Treas., Paul F. Kamler, Mechanical Supt., Clinton (Ia.) *Herald.*

Kansas-Missouri Newspaper Mechanical Conf.—Secy.-Treas., Larry Miller, Kansas Press Assoc., 701 Jackson St., Topeka, Kan.; Sec'y., William Bray, Missouri Press Assoc., Walter William Hall, Columbia, Mo.

Lithographers National Assoc. — 1954 Conv., The Greenbrier, White Sulphur Springs, W. Va., June 8, 9, 10. Pres., William H. Walters, President, United States Printing and Lithograph Co., Old Country & Glen Cove Rds., Mineola, L. I., N. Y.; Exec. Dir., W. Floyd Maxwell, 420 Lexington Ave., New York 17, N. Y.

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Mid-Atlantic Mechanical Conf.—1954 Conf., Penn-Harris Hotel, Harrisburg, Pa., Mar. 18, 19, 20. Jointly sponsored by the New Jersey Press Assoc. and the Pennsylvania Newspaper Publishers Assoc. Conf. Co-chairmen, Allen C. Spurgeon, Mechanical Supt., Uniontown (Pa.) Newspapers, Inc.; Jules L. Plangere, Mechanical Supt., Asbury Park (N. J.) *Press;* Conf. Dir., Theodore A. Serrill, PNPA General Mgr., 209 Telegraph Bldg., Harrisburg, Pa.

National Assoc. of Litho Clubs — 1954 Conv., Hotel Biltmore, New York, N. Y., May 7,8. Pres., Andrew Balika, Supt., Copifyer Lithograph Corp., 1771 E. 24th St., Cleveland; Exec. Secy., Sol D'Allesandro, Supt., Horn & Norris, Inc., 2729 Prospect Ave., Cleveland.

National Assoc. of Photo-Lithographers—Pres., A. J. Fay, 75 Varrick St., New York, N. Y.; Exec. Vice Pres., Walter E. Soderstrom, 317 W. 45th St., New York 36, N. Y.

Completes Modernization Program—The De Vievre Printing Co. in Braaschaat, Belgium, has recently completed the installation of another Miehle press, and is now operating four V-50 Verticals and two No. 29 Letterpresses, as seen in this illustration. The De Bievre Printing Co. specializes in quality color process work and publication work.

National Printing Equipment Assoc., Inc. Pres., Robert B. Tullis, Pres., Miller Printing Machinery Co., 1101 Reedsdale St., Pittsburgh 33, Pa.; Secy., James E. Bennet, 140 Nassau St., New York 38, N. Y.

National Safety Council Printing and Publishing Div.—Gen. Chairman, Peter J. Bernard, Director of Personnel and Safety, H. Wolff Book Mfg. Co., 508 W. 26th St., New York 1, N. Y.; Staff Rep., Fred Lubet, National Safety Council, 425 N. Michigan Ave., Chicago 11.

New England Mechanical Conf. — 1954 Conf., Hotel Statler, Boston, Mass., Oct. 16-17. Pres., J. William Powers, Mech. Supt., Burlington (Vt.) *Free Press;* Secy.-Treas., Walter C. Crighton, Comp Room Supt., New London (Conn.) *Day.*

Northwest Mechanical Conf.—1954 Conf., Radisson Hotel, Minneapolis, Minn., Feb. 27,28, and March 1. Pres., John R. Copeland, Production Mgr., Minneapolis (Minn.) *Star* and *Tribune;* Secy.-Treas., Ralph Carson, Dunwoody Industrial Institute, Minneapolis, Minn.

Pacific Mechanical Conf. — 1954 meeting, Multnomah Hotel, Portland, Ore., Sept. 17-19. Pres., Wm. E. Gibbons, Prod. Mgr., Portland (Ore.) *Journal;* Secy., Don Newhouse, Prod. Mgr., Portland (Ore.) *Oregonian;* Chairman Supplymen's Committee, Intertype Corp., Portland, Ore.

Printing Industry of America—1954 Conf., Hotel Statler, Detroit, Mich., Nov. 15-19.

Pres., James J. Rudisill, Rudisill & Co., Lancaster, Pa.; Gen. Mgr., James R. Brackett, 719 Fifteenth St., N.W., Washington 5, D. C.

Research and Engineering Council of the Graphic Arts Industry, Inc. — 1954 annual meeting, Kalamazoo, Mich., May 11-12. The 1955 meeting to be held on May 12-13, city and hotel to be announced later. Pres., Edward J. Triebe, Vice Pres., Kingsport Press, Kingsport, Tenn.; Exec. Secy., John Reed, 719 Fifteenth St., N.W., Washington 5, D. C.

Screen Process Printing Assoc. — Pres., Joseph Grossman, Masta Displays, Inc., 230 W. 17th St., New York 11, N. Y.; Secy., Dan Novak, 549 W. Randolph St., Chicago 6.

SNPA (Eastern Div.) Mechanical Conf.— 1954 Conf. tentatively set for Aug. 23, 24, Montgomery, Ala. Exact dates and hotel to be announced later. Conf. Chairman, C. Leroy Ray, Mechanical Supt., Winston-Salem (N. C.) *Journal* and *Sentinel;* Secy., Ray B. Crow, Southern Newspaper Publishers Assoc., P. O. Box 1569, Chattanooga 1, Tenn.; Chairman of Mfrs. and Suppliers Group to be announced later.

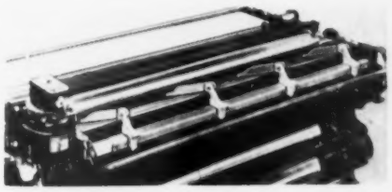
SNPA (Western Div.) Mechanical Conf.— 1954 Conf., Hotel Marion, Little Rock, Ark., March 7-9. Chairman, Palmer Black, Mechanical Supt. Amarillo (Tex.) *Globe-Times;* Secy., Walter Johnson, jr., P. O. Box 1569, Chattanooga 1, Tenn.; Chairman of Supplymen's Committee, Karl L. Ponath, Mgr., Mergenthaler Linotype Co., 514 Browder St., Dallas 1, Texas.

Technical Assoc. of the Graphic Arts— 1954 Conv., Schroeder Hotel, Milwaukee, Wis., May 10, 11. Pres., Richard F. Shaffer, Pratt Institute, 215 Ryerson St., Brooklyn 5, N. Y. Secy.-Treas., George S. Hammer, 8 Cherry St., Marblehead, Mass.; Convention Chairman, J. L. Roser, Milprint, Inc., 4200 N. Holten St., Milwaukee 1, Wis.

Equipment & Supplies

(Continued from Page 25)

drives for supercalendering, rewinding and finishing the paper product. Information on register controls and service facilities also is included. For a copy of this bulletin, please ask for PEE No. 11 in your request to *Printing Equipment Engineer*.



Ink Agitator—A motor driven ink agitator equipped with four blades for covering the entire length of a fountain has been designed for large size printing presses by Ortleb Machinery Co. Advantage in the four blade agitator, states sponsor, is that it saves on washup time. The blades may be moved to any position on the agitator bar if a split fountain is desired. Ortleb further states the blades are designed to fit close to the fountain roller for removing air in the ink. Please refer to PEE No. 37 if further information is requested.

Offset Platemaking Unit

A unit designed for preparing printing plates for offset duplication, such as are required for small Multilith and Davidson duplicators, has been announced by Robertson Photo-mechanix, Inc. Designated the Star Fire Platemaker, it is enclosed in a cabinet which includes a vacuum printing frame, built-in high speed light source, stripping and opaquing light box and an acid proof rub-up surface. The stripping and opaquing light box is equipped with adjustable straight edges. Further details are available by asking for PEE No. 23 in your request.

Industrial Hand Cream

Donovo, a prophylactic hand cream for industrial use, has been announced by Chase Chemical Co. Sponsor states the cream assists in restoring depleted oils to chapped and irritated skin. It contains 15% hydrous lanolin and USP Menthol in a hydrophilic cream base. Further in-

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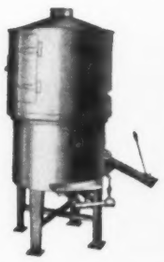

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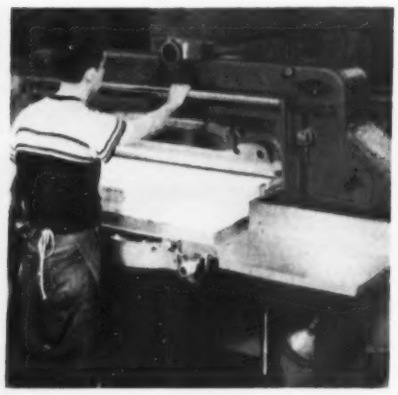
Automatic Spacing Cutter

The Como Cutter is available in 31 in., 36¼ in. and 45 in. sizes, according to Super Speed Printing Machinery, Inc. All models are equipped for automatic spacing and with a power driven back gauge. The automatic spacing feature permits making cuts down to ¾ in. and provides up to 30 automatic cuts from a full size sheet. Sponsor claims the Swedish-made machine is designed for



30 to 34 cuts per min. An automatic clamp and adjustable knife are other features. Additional information is available by referring to PEE No. 31 in your request.

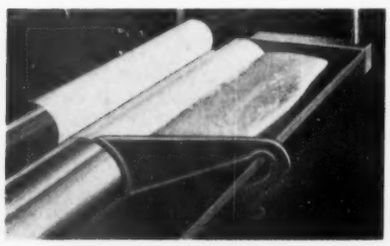
Metron Hand Tachometer

A thumb operated range selector which automatically changes the scale numbers for each range has been incorporated in the Metron Hand Tachometer, reports the Metron Instrument Co. The same feature of the instrument also shows the correct number of r.p.m. per

scale division. The scale is subdivided for readability. Commutated capacitor principle of operation prevents damage due to overspeeding or selection of wrong range, claims sponsor. Different types of tachometers and range extending adapters are available to measure speeds from 2 r.p.m. to 100,000 r.p.m. Each instrument is supplied with a carrying case, tip extension, Neopene contact tips and f.p.m. rollers. Please ask for PEE No. 36 in your request if more details are desired.

Offset Press Roller

Ideal Roller & Mfg. Co. has reported the development of a light gray colored synthetic rubber offset roller. The rollers will be marketed under the trade name of Graytone. Sponsor states the light color will permit the pressman to see when the roller is clean and ready for the next job. It is also claimed that the Graytone roller is glaze-resistant. A descriptive bulletin on this roller is available. Please ask for PEE No. 24 in your request.



Fountain Divider — The Page Fountain Dividers for letterpress and offset press ink fountains are to be handled by the Bar-Plate Mfg. Co., through the recent purchase of the Robert Page Fountain Divider Co. Made of special alloyed aluminum, each divider is designed according to specifications of the press on which it is to be used. The Page Dividers are available for Miehle, ATF, Miller, Harris, Babcock, Whitlock, Premier, Cottrell, Hooper and Langston presses. More information may be obtained by mentioning PEE No. 39 in your request.

Mechanism of the Linotype and Intertype

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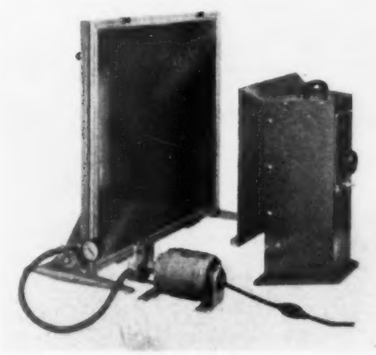
Vacuum Printing Frame-Arc Lamp Combination

A platemaking combination of a vacuum printing frame and arc lamp, reported by nuArc Co., Inc., is designed



for exposing pre-sensitized offset plates up to 17 in. by 22 in. Sponsor states the combination will also accommodate plates up to 20 in. by 24 in.

The printing frame is of all-steel welded construction with the glass set in solid extruded aluminum. The blanket is a diamond pyramid rubber type with a special one-piece extruded, hollow beading for vacuum seal. It is equipped with a 1/15 h.p. motor and pump which maintains 24 cu. in. of vacuum, a vacuum release valve and gauge.

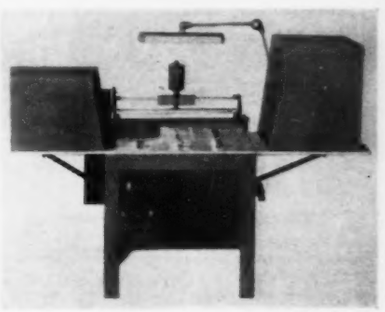
The nuArc N-20 portable arc lamp is included in the combination. This model is equipped with a heavy duty transformer, draws 8 amps and can be connected into any 110 v. line. Additional information on this equipment may be had by asking for PEE No. 30 in your request.

Screen Process Materials Bulletin

A 16-page bulletin contains a description of the Ektagraph Process for making photographic stencils for screen process. The bulletin also serves as a reference to aid photographers in the proper selection of photographic materials to do all types of photomechanical reproduction. The bulletin is designed to assist the screen process printer in the selection of photographic materials to complete the work from original to stencil. Several pages are devoted to photographic materials for producing the original copy. Please ask for PEE No. 28 if you desire a copy.

Tipping and Gathering Machine

The Pacemaker Tipper and Semi-Automatic Collator, announced by Super Speed Printing Machinery, Inc., is designed for the production of multiple



carbon forms. In operation, the operator removes a sheet in order from any of the bins on either side of the working area. As each sheet is placed in the jogger area, the operator releases a knee lever which brings the tipper bar forward to deposit glue upon the sheet. This same procedure is repeated until a lift approx. 1½ in. high has accumulated in

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the jogger area. The lift is removed by depressing a finger release lever.

Specifications of the Pacemaker machine are as follows: Max. sheet size, 17½ in. by 25 in.; min. sheet size, 1 in. by 3 in.; floor space, 30 in. by 72 in.; height, 49 in.; speed, 1200-2400 sheets per hr., depending upon operator's speed; and weight, 272 lbs. The tipping bar is powered by an a.c. variable-speed motor. Please request PEE No. 32 when writing for more information.

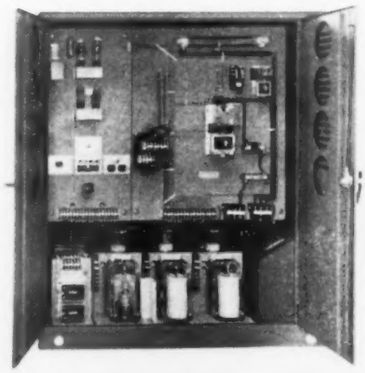
Supply Catalog Available

Of interest to buyers of stereo, composing, engraving and pressroom supplies and equipment is the announcement by Eastern Newspaper Supply, Inc., of its enlarged, 52-page 1954 catalog. Please specify PEE No. 16 when requesting a copy of the catalog.

Mercury Rectifier Power Drive

The Reliance Xatron V-S Drive utilizes mercury arc rectification with a single anode mercury pool rectifier tube in converting alternating current to controlled d.c. variable voltage for application to adjustable-speed drive equipment. According to Reliance Electric & Engineering Co., the unit is designed for a broad range of industrial applications.

The first size of air-cooled Xatron rectifier available, operating in a three-phase bridge arrangement, provides conversion suitable for 30, 40 and 50 h.p. drives. The drive with Xatrons consists of the operator's control station, adjustable-speed drive motor and control unit



which is enclosed in a cabinet measuring 56⅜ in. wide, 65¾ in. high and 28 in. deep.

The cabinet with rectifier enclosed is shown in the accompanying illustration. It is equipped with a louvre opening for exhausting circulated cooling air. Pan-type doors, front and back, are removable. Connection to a plant's a.c. power line is made through an internally-connected circuit breaker arranged for convenient external operation.

Additional information is available by referring to PEE No. 27 in your request.

Offset Plate Grainer Bulletin

A descriptive bulletin concerning the NK Offset Plate Graining Machines announced by Amsterdam Continental Types and Graphic Equipment, Inc., is now available. The grainers are available in the following plate sizes: 31½ in. by 41¼ in.; 39¼ in. by 53⅛ in.; 43¼ in. by 57 in.; 49⅛ in. by 70⅞ in.; and 55⅛ in. by 78¾ in. A copy of the bulletin may be obtained by asking for PEE No. 22 in your request.

Dropout Process Bulletin

The DropDot photographic dropout process for coarse screen halftones is explained in a four-page, two-color bulletin issued by Kemart Corporation. The process is used for making highlighted newspaper plates from wash drawings on most kinds of paper. Descriptions of how the DropDot process works in copy preparation and platemaking practices are included in the bulletin. Examples of its use in illustrations are also shown. A copy of the bulletin may be obtained by asking for PEE No. 21 in your request.

Reliance a.c. Motors

Reliance Electric and Engineering Co. has introduced a line of squirrel-cage induction motors which it claims makes greater horsepower possible in more compact space. The line, including protected and enclosed motors for all industrial purposes, is built to NEMA stand-

ards. Available at present are motors for 1, 1½ and 2 h.p. applications, in frame sizes 182 and 184. The balance of the line will extend to 30 h.p. applications. The totally enclosed fan-cooled motors are built to operate under a variety of atmospheric conditions and in any mounting position, according to the sponsor. Please ask for PEE No. 33 if more details are desired.

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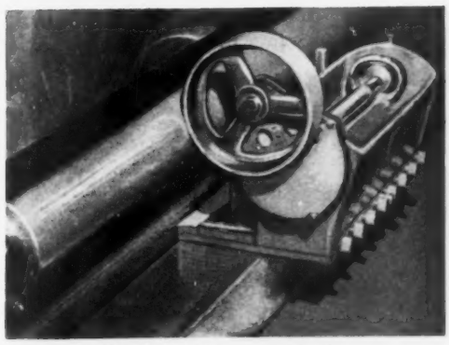

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Screen Process Film

Du Pont Screen Process Film may be exposed directly in a copy camera, printed by projection with a regular darkroom enlarger or used in a contact printer, announces E. I. du Pont de Nemours & Co. Reduction or enlargement of the image is made directly on the screen. After processing, if desired, the film may be dried and stored for future use.

Total processing time is 6 min. To use the processed film, the platemaker washes it in hot water for a couple of minutes, mounts it on a screen, permits it to dry and then strips off the base as is shown in the accompanying illustration. Approx. 30 min. is required from time of exposure to the dried stencil.

For increased subject contrast, a yellow light may be used for the exposure. In contact work, a yellow insect-repellent lamp is suitable. For copy camera or enlarger use, a Wratten No. 4 filter may be placed over the lens. Using small halftone positives and incandescent lighting, the film makes possible projection printing of large screens, such as those used for billboard posters.

The screen is processed in a darkroom under a red safelight. Sponsor states that after processing, light has no further effect on the emulsion. More information may be obtained by requesting PEE No. 38 in your letter.

Colored Virk-Opaque

Virk-Opaque, colored opaque Thermographic Compounds now being introduced for raised letter printing by Virkotype Corporation, are said to intensify color effects in printing. Gold, silver, and standard shades are available. Virk-Opaque Compounds are strongly pigmented, making it possible to maintain color on any color paper background, including dark tones and black, according to the sponsor. These compounds are designed for printing covers, greeting

Screen Process Decorator Press — The General Decorator Press is designed for screen process printing of metal and plastic signs and nameplates, cardboard displays, book covers and a variety of other items on rigid sheets of metal, plastic, cardboard, glass, wallboard, plywood, etc., announces General Research and Supply Co. Sheet range of the press extends from 8 in. by 12 in. to 19 in. by 25 in. and 0.010 in. to $\frac{5}{8}$ in. thickness. Speed range is from 1000 to 2000 sheets per hr. The press may be fed either by hand from an automatic stock lift or by a conveyor system. The printed sheet is delivered on tapes for the drying operation. Register can be adjusted while the press is in operation. Additional details are available by requesting PEE No. 40 in your letter.

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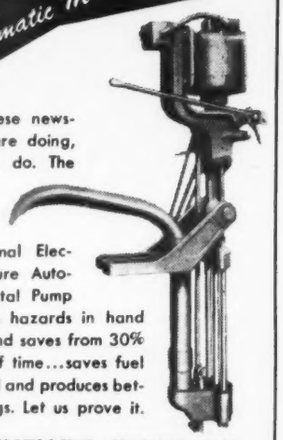

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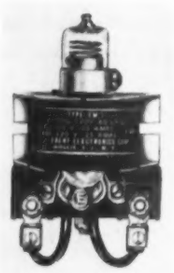
cards, box wraps, etc. Additional information can be obtained by requesting PEE No. 17.

Mercury Relays — The Ebert Mercury Relay is designed for installation in electric pot panel boxes on linecomposing machines. Announced by Ebert Electronics Co., the relays are totally enclosed in hermetically sealed glass tubes and are said to be silent in operation.



Sponsor also claims no pitting, corrosion or sticking in mercury-to-mercury contact operation. The Type EM-1 Relay (illustrated here) is rated at 35 amps, 115 v., a.c., and 25 amps, 220 v., a.c. Heavy duty 60 amp mercury relays are also available. Additional details may be obtained by referring to PEE No. 19 in your request.

Color Masking Reproducer — The Gelb Color Masking Reproducer is designed for reproducing all color masks, photocomposed transparencies and color separation negatives, either by contact or enlargement within a single darkroom, according to the Jos. Gelb Co. The Masking Reproducer is said to convert any process camera into a precision color masking camera.

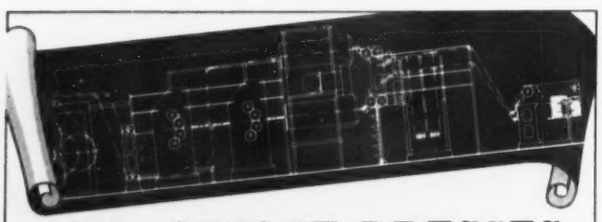
Part of the unit is known as the Gelb 3-point register chase which functions as a contact frame when used with the reproducer and a precision transparency registration chase when inserted into the positive holder of the process camera.

Gelb 3-point chases can be used for both glass and film or a combination of both. Chase sizes available include 8 in. by 10 in. by 12 in., 11 in. by 14 in., 16 in. by 20 in., 20 in. by 24 in. and larger. Film registration pins conform with the standard Eastman Kodak film registration matrix punch. All 3-point chases are synchronized with a master standard.

The light source is a Gelb 4 in. by 5 in. Pro optical condenser projector equipped with a color corrected lens. Illumination is provided for both contact exposures and color separation negatives from transparencies ranging in size from 35 MM to 4 in. by 5 in. Other parts of the unit include an automatic electric interval timer, base standard with vertical column and a 20 in. by 24 in. composing and light table equipped with a 3-point register bar. Please ask for PEE No. 26 when requesting further details.

Screen Process Supply Catalog

Scott's Screen Process Supplies has made available its latest catalog on screen



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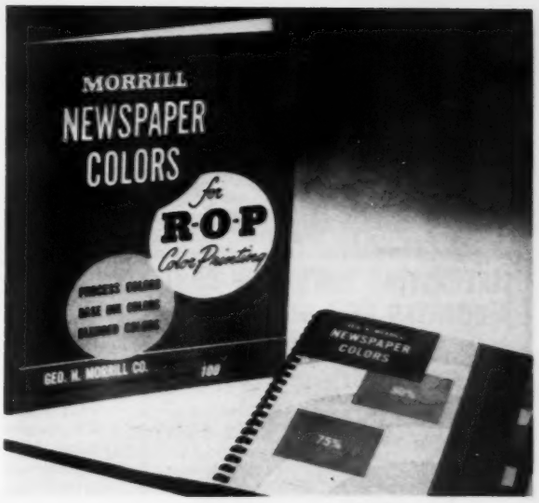
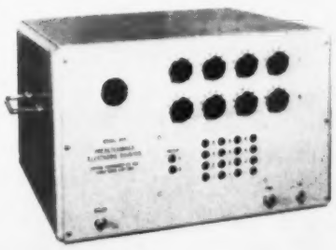
process supplies and equipment. Consisting of 35 pages in a loose leaf cover, the catalog includes a description of the McCormick Silk Screen Printer. Please ask for PEE No. 35 if you desire a copy.

ROP Newspaper Color Book—The Geo. H. Morrill Co., Div. of Sun Chemical Corp., recently issued a specimen book illustrating a blending system with new colors for R.O.P. advertising. Three process colors, 12 standard base colors and 40 blends are shown, each with an indication of screen values. All are printed with production inks on newsprint. The booklet includes a color index arrangement for quickly identifying color selections by name and number. Please mention PEE No. 14 when requesting a copy of this booklet.





Predetermined Electronic Counter

Count ranges from 1 to 10,000 and counting rates to 60,000 per min. in each of two channels are features of the Model 24 Predetermined Electronic Counter, announced by Potter Instrument Co., Inc. Front panel rotary switches permit independent setting of each channel directly to the numbers to be predetermined.

At the end of each predetermined channel count a control output is provided in the form of relay contact closure or a voltage pulse. Switching between channels and reset of the channels is automatic.

Sponsor claims the use of anti-transient circuits prevents spurious counts resulting from changes in line voltage. Parts of the instrument are said to perform reliably under dust and vibration hazards. Please mention PEE No. 25 when requesting additional details.

Rotogravure Press Bulletins

ATF rotogravure presses are the subject of three bulletins available from the Mt. Vernon Div. of American Type Founders. The Pendulum Action (P. A.) press and the Heavy Duty (H. D.) press are described in two bulletins. The Heavy Duty press prints from web widths up to 72 in. The P. A. press is designed for printed widths from 26 in. to 48 in., and for printing on laminated foil, glassine, Cellophane, tissue and lightweight board, as well as paper. The H. D. is designed for printing food wraps, labels, calendars, etc. It can be equipped with a surface rewind, a magazine type folder or a combination of both these with rotary sheeter and pile delivery. Like the P. A., it can print from one to eight colors.

Features of the press illustrated in the bulletins are: Cascade inking evenflow ink pumps; automatic heat controls to maintain desired temperatures in each

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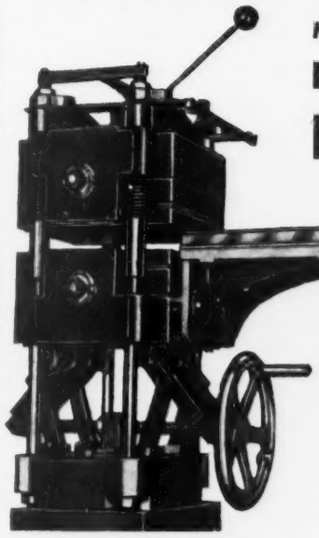

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2. Release pressure, extract all from Eva-Press and have finished matrix.
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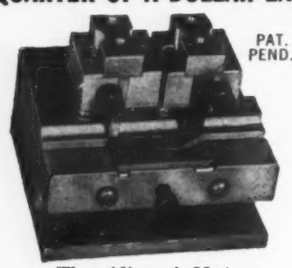

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drying chamber; walk-in space between printing units; right-hand controls; electronic web tension, and helical gears on running register gear boxes. Turning bars between printing units provide for printing on each side of the web.

The third bulletin is descriptive of the ATF-Klingrose Hi-Speed Rotary Sheeter and Stream Delivery. It has sheeting speeds up to 15 thousand per hr. For copies of these bulletins, please request PEE No. 29 in your letter.

Fluorescent Light Viewer

A viewer designed for use in the pressroom, platemaking department or photographic laboratory has been announced by the Marvin Mfg. Co. The viewer is designed with a white porcelain enamel reflector for distributing the light from two fluorescent tubes over a plastic viewing surface. The unit may be installed in a recessed wall position or mounted flat on a table, desk or counter. The viewer frame is of corrosion-resistant stainless steel. Overall dimensions: 20 in. high by 17 in. wide by 3¾ in. deep. It is equipped with four clips with rubber rollers for holding sheets firmly on the surface. Please ask for PEE No. 20 if further details are desired.

Flexographic Press

Announcement has been made that Wolverine Paper Converting Machinery Corp. has been named distributor for the German-made Pavema flexographic press. The press is designed for printing three colors on one side of the sheet, or two colors on one side and one on the reverse side. The Wolverine Pavema is a roll to sheet job presses. Sizes and speeds are as follows: 11 in. by 17 in., 7500 i.p.h.; 8½ in. by 11 in., 15,000 i.p.h.; and 5½ in. by 8½ in., 30,000 i.p.h. A two-color descriptive bulletin of the press is available. Please mention PEE No. 18 when requesting further information.

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ANPA
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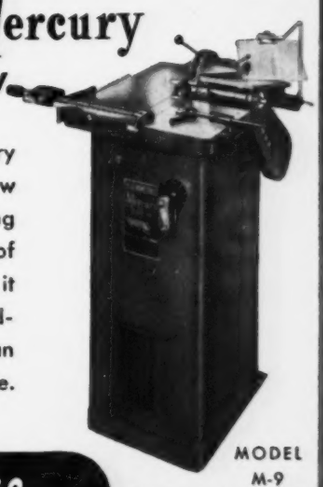

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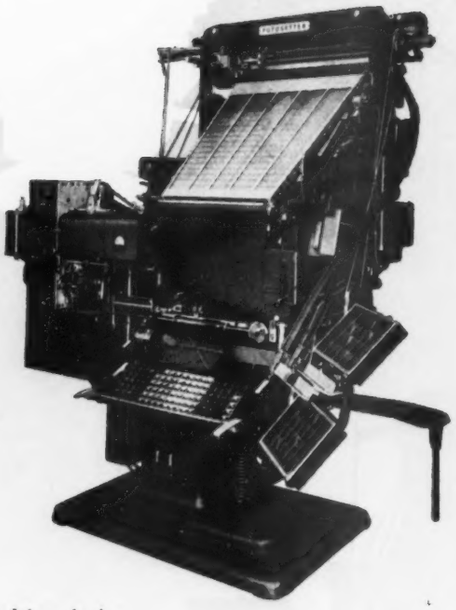

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